The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOL. VI
No. 1

JULY
1930

Published by THE NATION'S SCHOOLS PUBLISHING CO. *Chicago*

PROPERTY OF
GRAND HAVEN PUBLIC SCHOOLS

VR V.6 - July - Dec. 1930

The Prince doubts the mighty sword of Richard, who cleaves in two the Prince's mace as evidence.

Sword of Richard. Painted by Ludwig Gassner

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SHELVING

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Published on the fifteenth of each month by
THE NATION'S SCHOOLS PUBLISHING CO.
Member Audit Bureau of Circulations
President, Otho F. Ball *Secretary*, Stanley R. Clague *Treasurer*, J. G. Jarrett
919 NORTH MICHIGAN, CHICAGO—Telephone, Superior 6402
NEW YORK OFFICE—11 West 42nd Street. Telephone, Longacre 6591
SUBSCRIPTION RATES—Domestic, $2.00. Canada and Foreign, $2.50. Single copies (current), 25c. Back copies, 50c. Domestic rates include United States and possessions.
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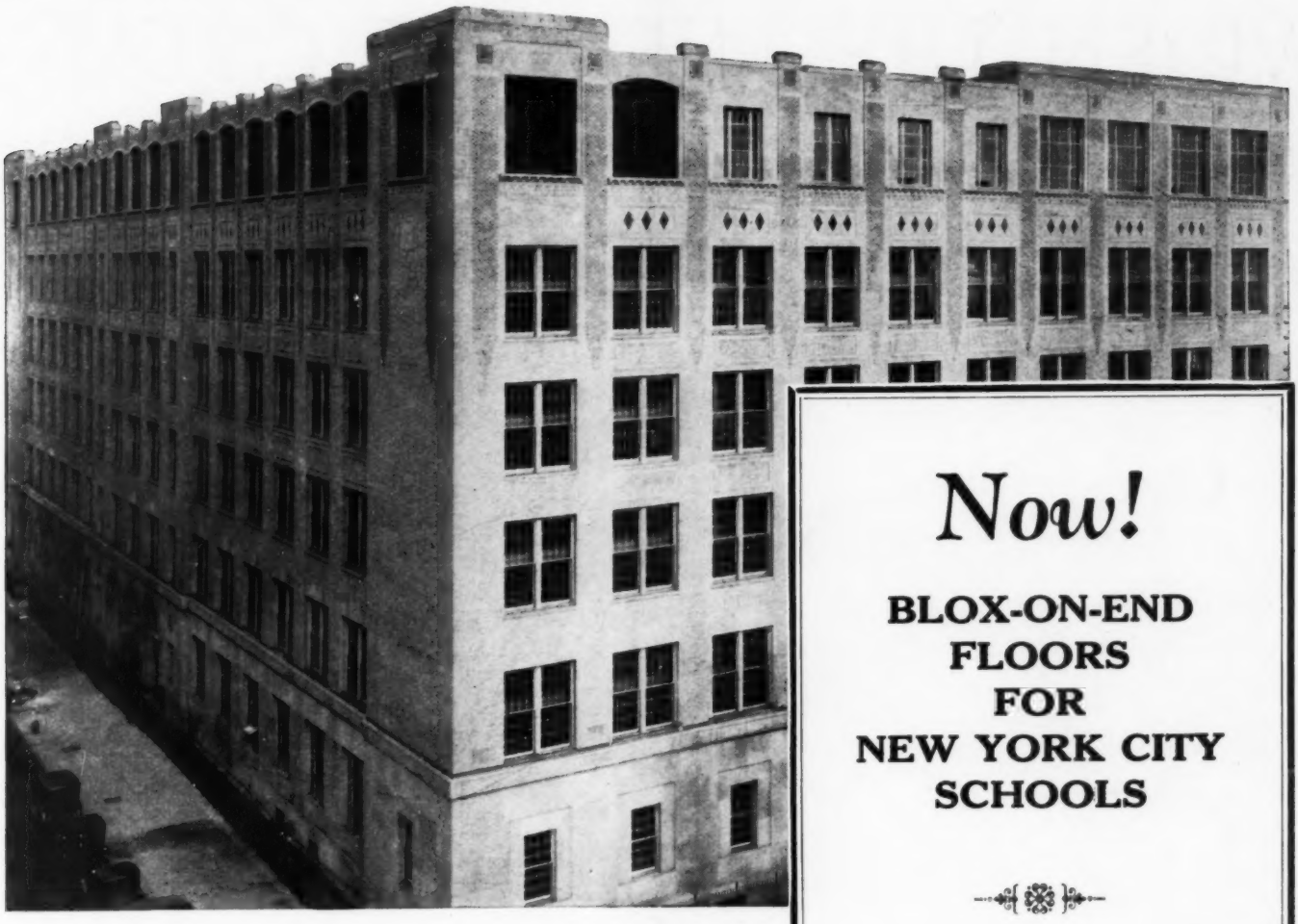

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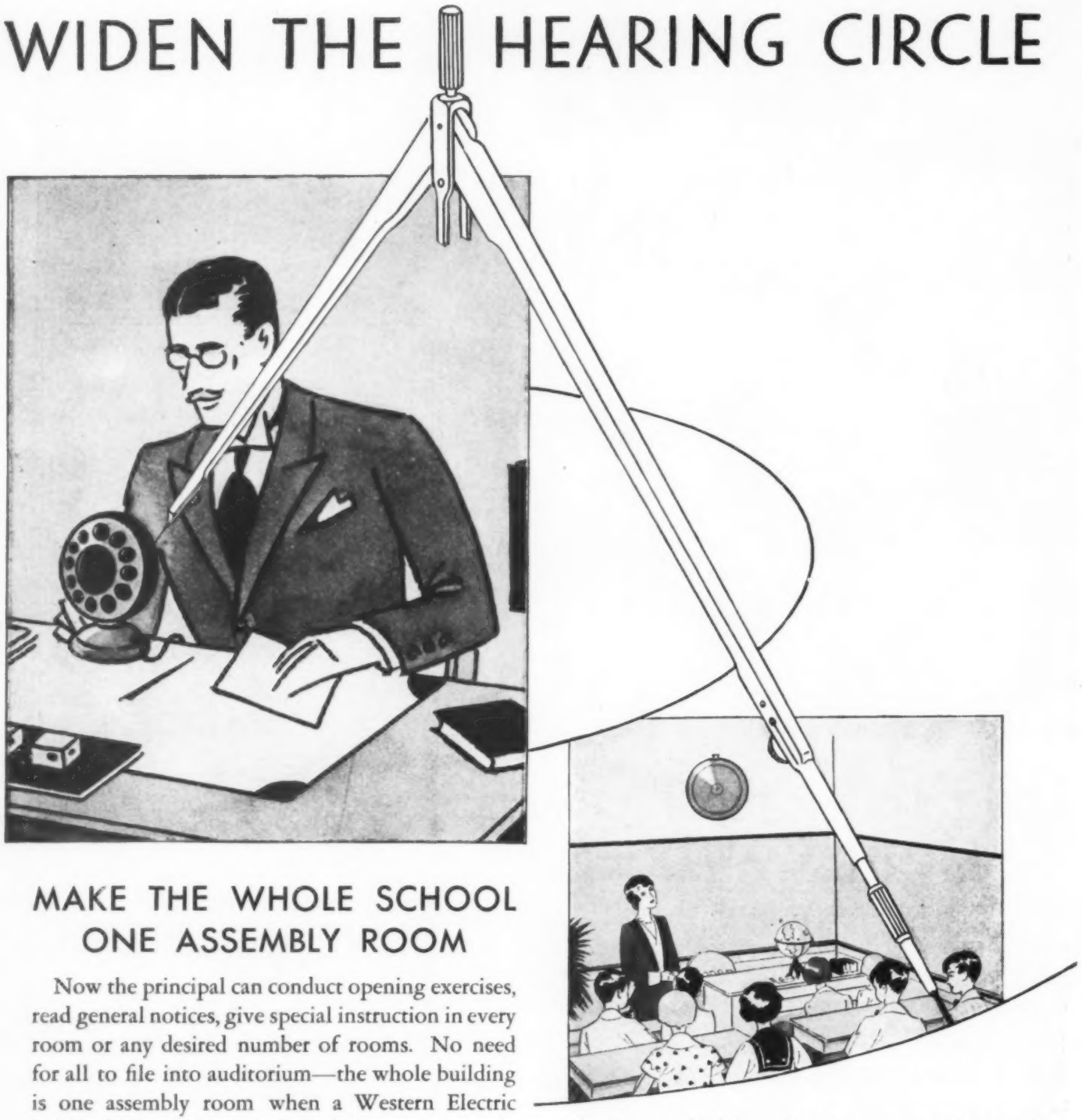

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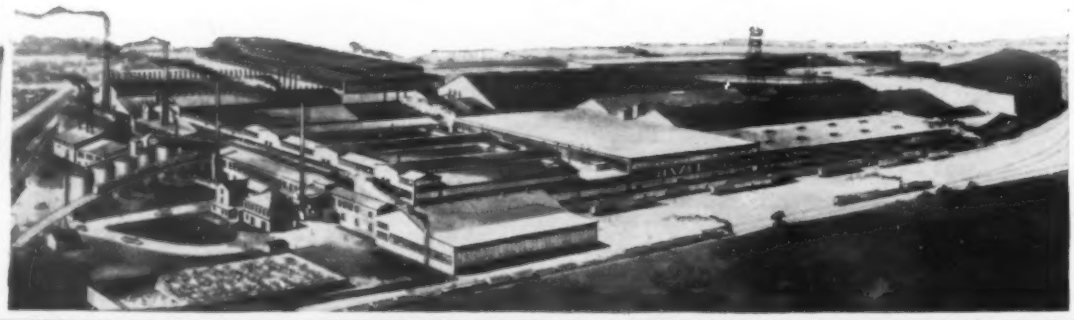

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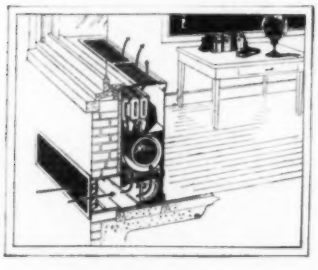

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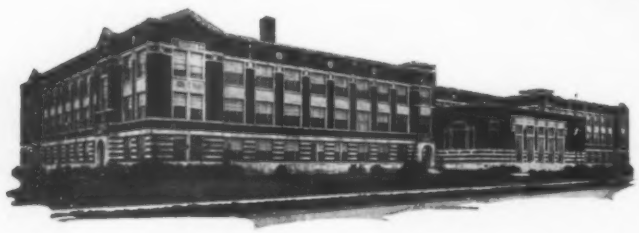

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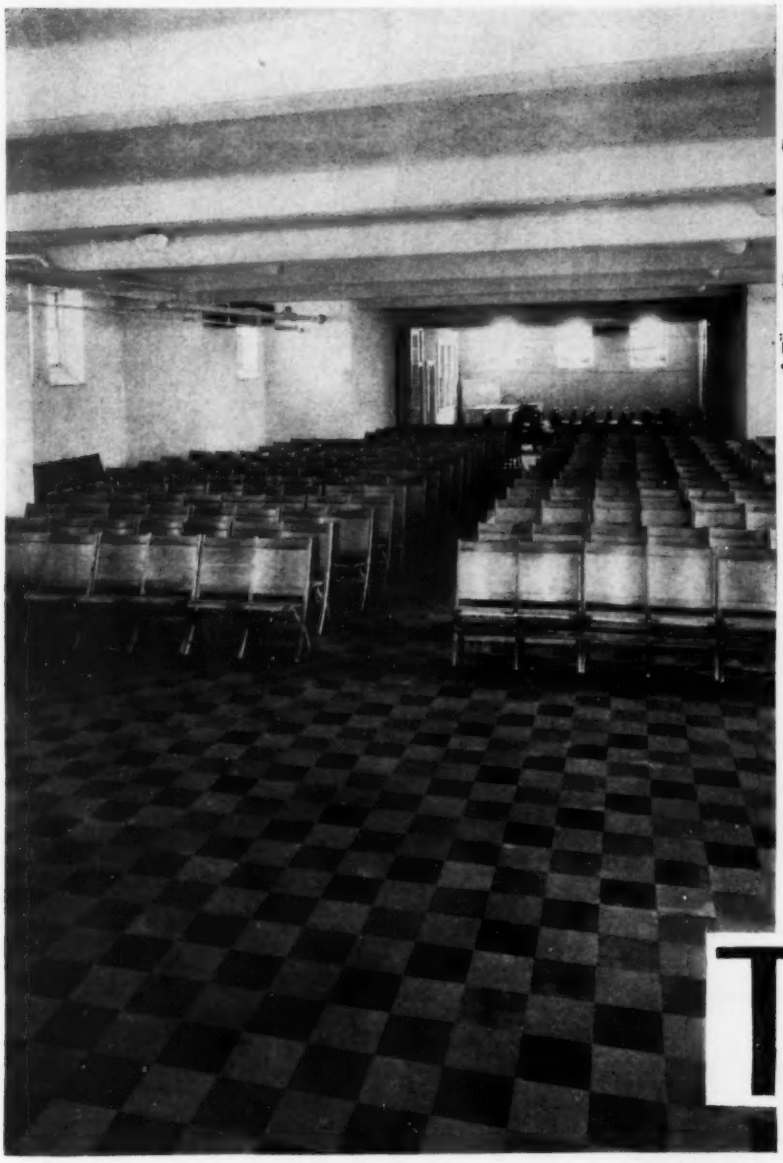

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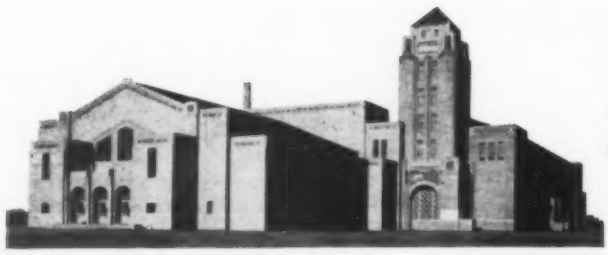

Wichita High School North, Wichita, Kansas, which has its own highly efficient "American" laundry.

Wichita High School North
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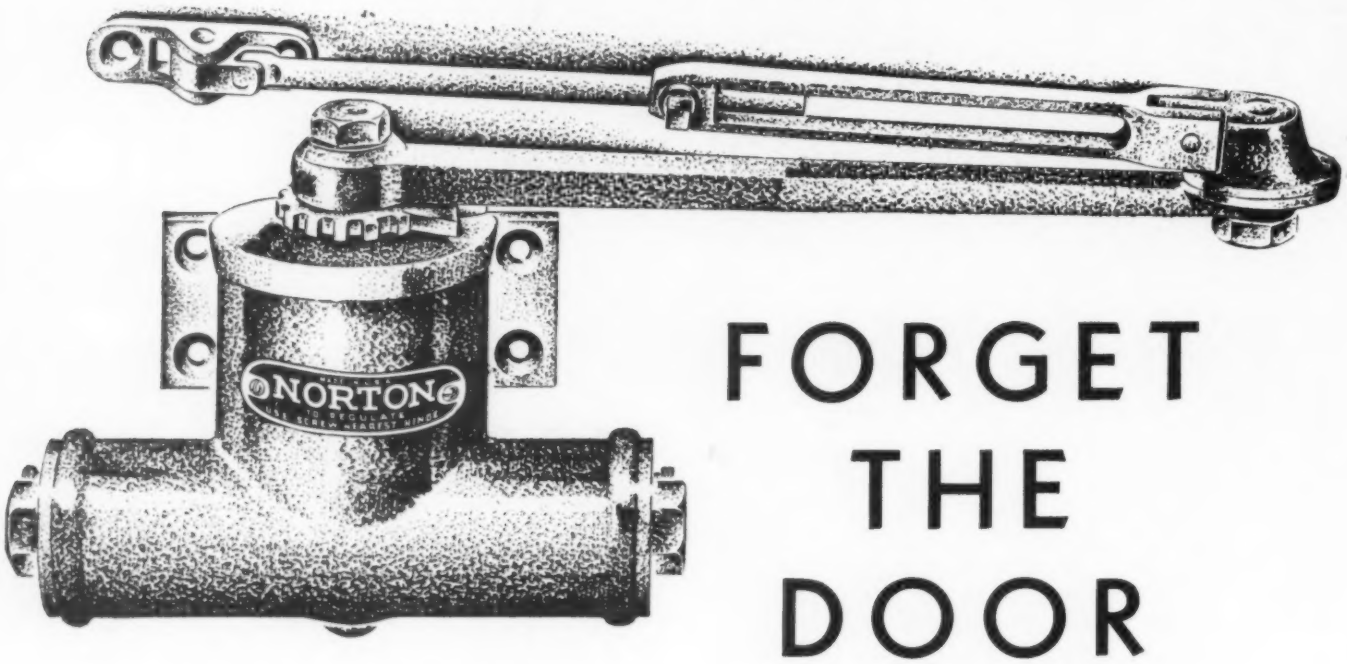

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There's nothing of the "mess hall" about the dining-room of the Illinois Women's College, Jacksonville, Ill. Note how the Corkoustic ceiling tones the entire decoration.

CORKOUSTIC *quiets* College Dining-Room

. . . Sound-absorbing and insulating qualities of attractive cork panels emphasize good manners

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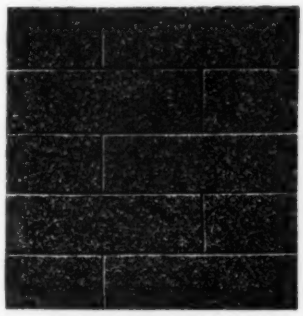

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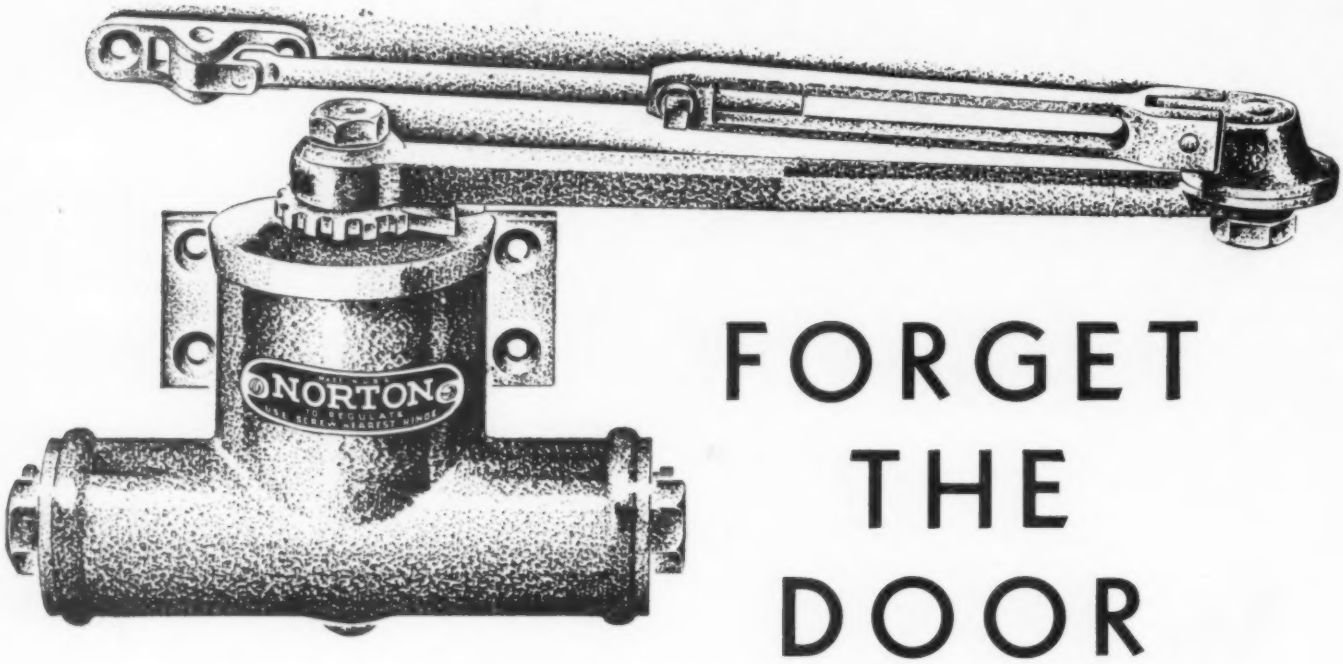

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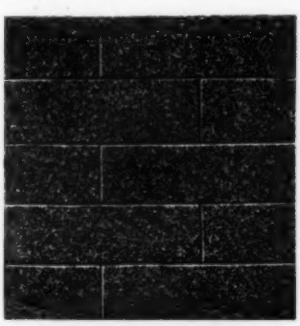

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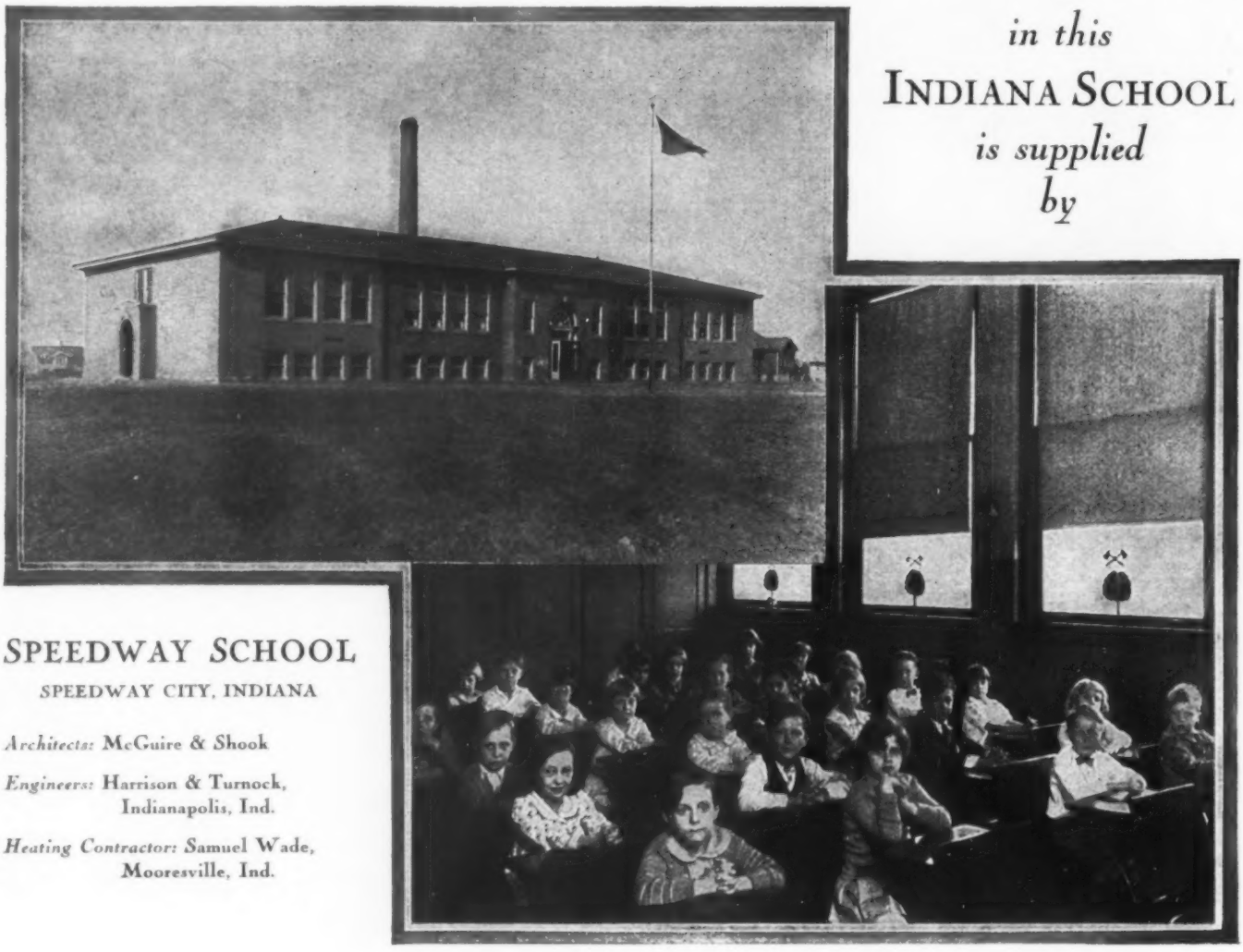

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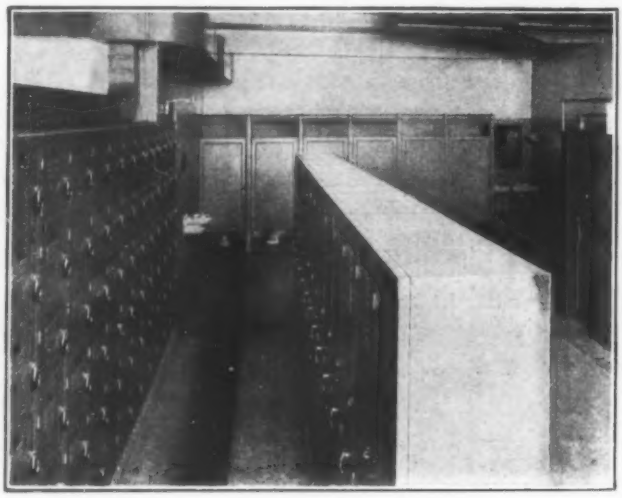

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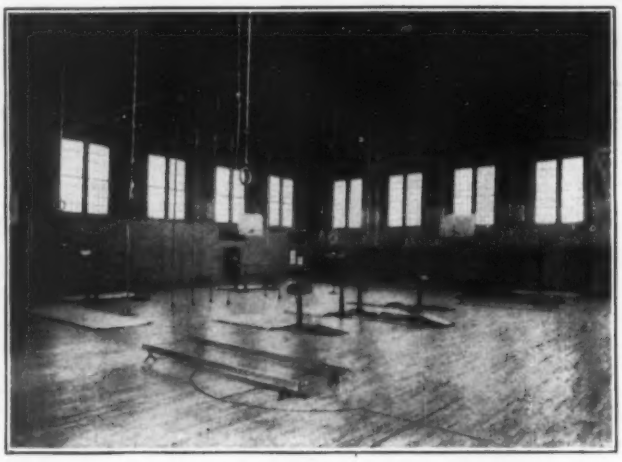

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DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME VI JULY, 1930 NUMBER 1

Research and Public Education in 1950

What will the next twenty years bring forth in research and educational practice? This study gives a glimpse of the limitless field into which research activities are yet to be carried

By W. HARDIN HUGHES, Director of Administrative Investigation and Research, Pasadena City Schools, Pasadena, Calif.

THE year 1950 will, no doubt, go down in history as an outstanding landmark in the development of educational research. During the decade immediately preceding, strides undreamed of by the earlier leaders of the scientific movement in education have taken place. The pioneer research of the first thirty years of this century has been consummated in marvelous success. But before elaborating the evidences of this success let us take a backward glance at some of the high spots as well as some of the low spots in the evolution of research in our public schools.

During the first thirty years of the twentieth century we were learning how to measure and were attempting to apply the newly developed techniques to the measurement of classroom products. We became increasingly interested in the statistical treatment of quantitative data. Distributions, medians, quartiles, deviations, and correlations, at first understood and used by the initiated few, gradually became common knowledge to the rank and file of the teaching profession. In fact the time came, in a somewhat later period, when the average teacher ceased to throw up her hands in bewilderment when she was presented with a statistical graph. Everybody, it seemed, had enlarged his everyday vocabulary to take in the hitherto mysterious I. Q., E. Q., A. Q., and innumerable other technical expressions related to the measurement of scholastic ability and achievement. Standardized tests, although introduced with greatest difficulty, had become fixed in general practice. Not only were new tests constantly added but the old were as constantly retained. For two or three decades, in fact, after the authors of the earlier tests had changed their viewpoint and had devised improved methods of measurement, the schools held tenaciously to the old. Research studies that had proved the almost complete overlapping of intelligence tests and educational achievement tests then in use affected general practice scarcely at all. Inertia guarding diligently the portals of our public school practices has obstructed passage in either direction.

Amateurish Investigation Rampant

Along with the general increase of standardized testing came a widespread participation in amateurish investigation. Anything expressed with figures in tabular form was ambitiously labeled research. An added graph, however simple or meaningless, was sufficient to turn the trick. Articles, books and reports in research disguise were multiplied almost without number. The bibliography of educational research studies issued by the United States Commissioner of Education in 1927 contained 1,500 titles of research studies completed that year; in 1928, 2,400 titles; in 1929, 3,000 titles, and in each succeed-

ing biennium the number was twice that of the preceding. A simple calculation gives us the astounding number of 192,000 research studies completed by public school people in the year 1941. The era of mass production was certainly well under way. The saturation point had at last been reached.

A Period of Educational Confusion

During this period of large scale production in educational research, warnings were being uttered here and there. The tendency to shallowness in investigational practice; the lack of sustained effort characteristic of too many research workers; the inability to withhold judgment until all the evidence was in; the enthusiastic announcement of partial and misleading truths; these and other imperfections of the time were vehemently declared. As long ago as 1927, Whipple made bold to assert that "relatively speaking, the published research in education is on the whole inferior in quality, and more especially inferior in ultimate significance, to the published research in other branches of scientific endeavor." "Too many contributions," he added, "are essentially futile. After you read them you feel like saying: 'Well, suppose it is true; what of it?'"

Even more caustic were the remarks of Courtis many years ago when he queried, "Who ever heard of experimentation in education that conformed sufficiently to the law of the single variable to enable two investigators to obtain identical results?" "Even repetition of educational experiments by different observers is seldom attempted," he declared, "because each investigator can find so many flaws in the procedures of his predecessors that he would consider it a waste of time to repeat their mistakes."

The confusion of tongues at the Tower of Babel was a minor event compared with what was taking place in education during the early thirties. The latter situation was rendered doubly confusing by the invention of more language to be misunderstood. This was especially true in the field of psychology, both general and educational. Every new school of psychological thought seemed to contradict every other school. The minor differences were so magnified, in fact, that they were permitted to overshadow the essential agreements.

A similar state of affairs had long existed among curriculum makers and philosophers of education. An "adventure in understanding" described by Rugg in the twenty-sixth year book of the National Society for the Study of Education had definitely pointed the way to a more wholesome procedure. It will be recalled that Rugg's committee of twelve outstanding leaders of educational thought met round a common table at intervals over a period of two and a half years for the discussion of their conflicting theories concerning the curriculum. The outcome of this adventure in mutual understanding was a signed agreement of seventeen pages on the "Foundations of Curriculum-Making." For the first time in the history of education, perhaps, could twelve national leaders in education be brought to the point of agreement on so much. The remainder of the 250 pages of the year book, however, was given over to the supplementary statements in which each of the signatories to the agreement gave his own interpretation of what had been signed. But a step toward cooperative thinking in matters pertaining to education had been taken.

By the year 1950, all but miracles in public education had been accomplished. Adventures in mutual understanding had become universal. Even the psychologists, philosophers and curriculum makers, greatest offenders, perhaps, of former times, were at last on speaking terms. Almost everywhere there was a recognition of the fundamental principle that intelligent people in possession of the same facts and like experience must necessarily arrive at similar conclusions. And, conversely, if the conclusions at which they arrive are dissimilar, either the facts are not a common possession or innate intelligence is seriously lacking. For the latter type of deficiency, no reliable remedy has so far been discovered.

A Happy Era of Mutual Understanding

Along with this happy era of mutual understanding and good will there came a revised conception of educational research. In the earlier decades of the movement under discussion, research was extraordinarily vague both as to definition and as to practice. To many administrators and educators, research was high grade accounting and publicity; to some, it was standardized measurement of classroom products; to others, it was the objective method applied to educational problems in general; while to still others, a minority, perhaps, it was critical, reflective thinking about educational questions. Gradually, however, a practical, common sense conception was evolved combining certain essential features of the foregoing, but adding and emphasizing the element of definite organization for fact finding. If harmonious conclusions in educational thinking are dependent upon the possession of common facts, as we have intimated, it

stands to reason that organized fact finding is a fundamental consideration.

During the earlier decades of the research movement in public education there was much fact finding, it is true, but of a kind and under conditions unfavorable to practical use. The administrative channels through which research data flowed were inadequate and too frequently broken and obstructed. Traditional rather than practical considerations determined the kinds and amounts of data collected. While quantities of data clogged the administrative machinery in practically every school system of the land, there was a dearth of properly analyzed facts for practical use.

Cooperative Thinking on a Large Scale

Under the new order of things all this was completely changed. Through large scale, cooperative thinking, administrators and research workers determined what types of data were essential for the continuous surveying of their systems. Not only were organization and personnel adequately provided for this purpose but the techniques for collecting and analyzing data were also agreed upon, thereby rendering possible a more logical comparison of survey results. This practical type of uniformity in the organization, procedures and techniques of fact finding had come into existence only gradually. Regional conferences of administrators and research workers, of an entirely voluntary nature, prepared the way. As time went on, however, the mutual benefits coming from such organized effort became so generally recognized that the plan was widely adopted by cities and regional districts resulting eventually in a nationwide movement of major importance.

By this time the cumulative survey, though never losing any of its practical value, had ceased to be classed as research in the strict sense of the term. Its value, however, as the objective basis for critical, reflective thinking was undiminished. In fact, it was generally recognized at this time that much of what has been called research in the earlier stages of the scientific movement in education was in reality not research but merely the objective basis for research.

Research Accomplishments Before 1950

In this connection should be mentioned the newer technique of interpretation that came into effective use about this time. It had been pretty well demonstrated that statistical skill in the treatment of quantitative data is only one of several essential qualifications for research. Even more fundamental is the ability to secure cooperative thinking in the interpretation of research findings. No single mind is capable of detecting all the pressing problems of a system of collecting and analyzing the relevant data and of interpreting adequately the results. Unfortunately, in the earlier days, research workers, unaided, attempted to do all these things.

But let us hasten to outline some of the more specific accomplishments of educational research up to 1950.

1. Broadly speaking, the direction of research was shifted from the minor to the major considerations in education. Confined at first to the narrow field of tests and measurements, research was gradually extended until, before the close of this period, it was touching every important phase of educational activity.

2. Having made its important contribution to the cooperative determination of educational objectives, procedures and facilities, research was made to serve the continuous purpose of evaluating these in terms of consistency and effectiveness.

3. Research had revealed the incompatibility of school standards, under the old régime, and life standards in general. The excuses for this incompatibility, frequently given by school people, were analyzed and found illogical.

Salvaging the Useful From the Useless

4. Research had secured the facts and had set forth the principles upon which personnel administration could become efficient. It was found, in fact, that the principles of efficient personnel management, whether in business, industry or education, are everywhere pretty much the same because human nature, in general, is of a common pattern.

5. Research had revealed the postrationalistic nature of innumerable and ambitious claims concerning new departures in education. It was found that modification in organization and procedures were as likely to spring from emergencies as from any well thought out plan or philosophy, and that, once a modification in school practice was effected, its proponents began to look about for justifying evidences which, when found, were advanced as reasons for the departure in practice.

6. Research had repeatedly revealed the discrepancies between the real and the supposed in educational practice. For example, the homogeneous grouping of students once so strongly advocated, and in many quarters claimed in practice, was proved a mistake. In like manner, supervised study, frequently declared a panacea for all educational ills, was found to be an almost unknown quantity in actual practice.

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7. Research had secured the facts upon which an evaluation of actual school procedures could be made and thereby had salvaged for continued use the real contribution of each. The tendency in former times had been to discard the useful with the useless because the former was so comparatively small.

Shifting Emphasis in Measurement

8. Research had revealed the causes of inarticulation between the school and the home, between the school and the work-a-day world and between each unit and every other adjacent unit in the educational system. It had discovered also the ways and means by which these inarticulations could be eliminated.

9. Research had discovered and analyzed the qualities of personality essential for success and happiness in the various occupations and professions, and had determined the types and kinds of situations that educational institutions must provide in order to develop these qualities in students. Useful habits, worthy attitudes and abiding interests came to be considered of greater importance than information acquired. Research had developed techniques for the measurement of these personal qualities. The emphasis in measurement had been shifted from the informational to the noninformational products of education.

The Passing of "Collegiate Mania"

10. Research had analyzed the effects of two conflicting philosophies in public education—the philosophy of child interest, growth and development so long advocated by Dewey and his followers and the philosophy of medievalistic practices in education handed down from the university to the upper divisions of the secondary school. The "collegiate mania" of the early thirties of this century, resulting in the general adoption of the six-four-four plan, had transformed the upper division of the secondary school into a hybrid that was neither fish nor fowl. "This is the way it is done in college" had become the chief, and usually convincing, argument for the adoption of almost any traditional procedure, content or practice. Furthermore, the four-year junior high school, aping the practices of the upper division, had become an institution poorly adapted to the educational needs of adolescent boys and girls. The gap formerly existing between the elementary school and the secondary school had become a yawning chasm. Research, however, was able, in time, to reveal the causes of these and other inarticulations and to suggest practical remedies.

What the Summer School Means to Thousands of Children

The introduction of the summer school into the American educational scheme, which now serves approximately 500,000 pupils in the public elementary schools of the cities alone, and nearly 400,000 students in universities, colleges and teacher training schools, affords many opportunities to the ambitious, M. M. Proffitt, acting chief of the division of statistics, United States Office of Education, points out.

In public secondary and elementary education, the summer school performs three important functions. By means of this opportunity children who for one or another reason have dropped behind their classmates, that is, those of their own age group, are able to get ahead. They can pass off their deficiency and in the Fall continue with their associates. It also makes possible an opportunity for those who wish to speed up their educational training and cut off some of the required time in the regular sessions to skip subjects and grades in the regular session by taking them in the summer. Sometimes parents get the false notion that their children are exceptionally bright because they can skip grades in this manner. Such is not always true. The fact is that any normal child can utilize the summer advantageously without showing extraordinary genius.

Because of the great congestion of the cities, the lack of recreational facilities, and surroundings unsuitable for home supervision, the summer school fulfills a vital need.

The summer school in large cities where children live in apartments or tenements becomes a suitable agency for leisure time activities. Its playground is open, the teacher and staff of the school are on hand to give directions and supervise, as is the practice in many cities, nature study trips, vocational work in making airplanes, kites and the like, which afford the children both instruction and amusement otherwise impossible.

English Teaching Is Unsatisfactory in Ohio Schools

Dr. W. J. Osburn, director of research, Ohio State Department of Education, recently sent out a questionnaire to all the school superintendents of Ohio, asking for a list of subjects in which school results were most unsatisfactory. The answers were varied. The plurality of the returns showed, however, that English is the subject in which the results are least satisfactory in the state as a whole.

How to Improve Janitorial Service in the Smaller City Schools

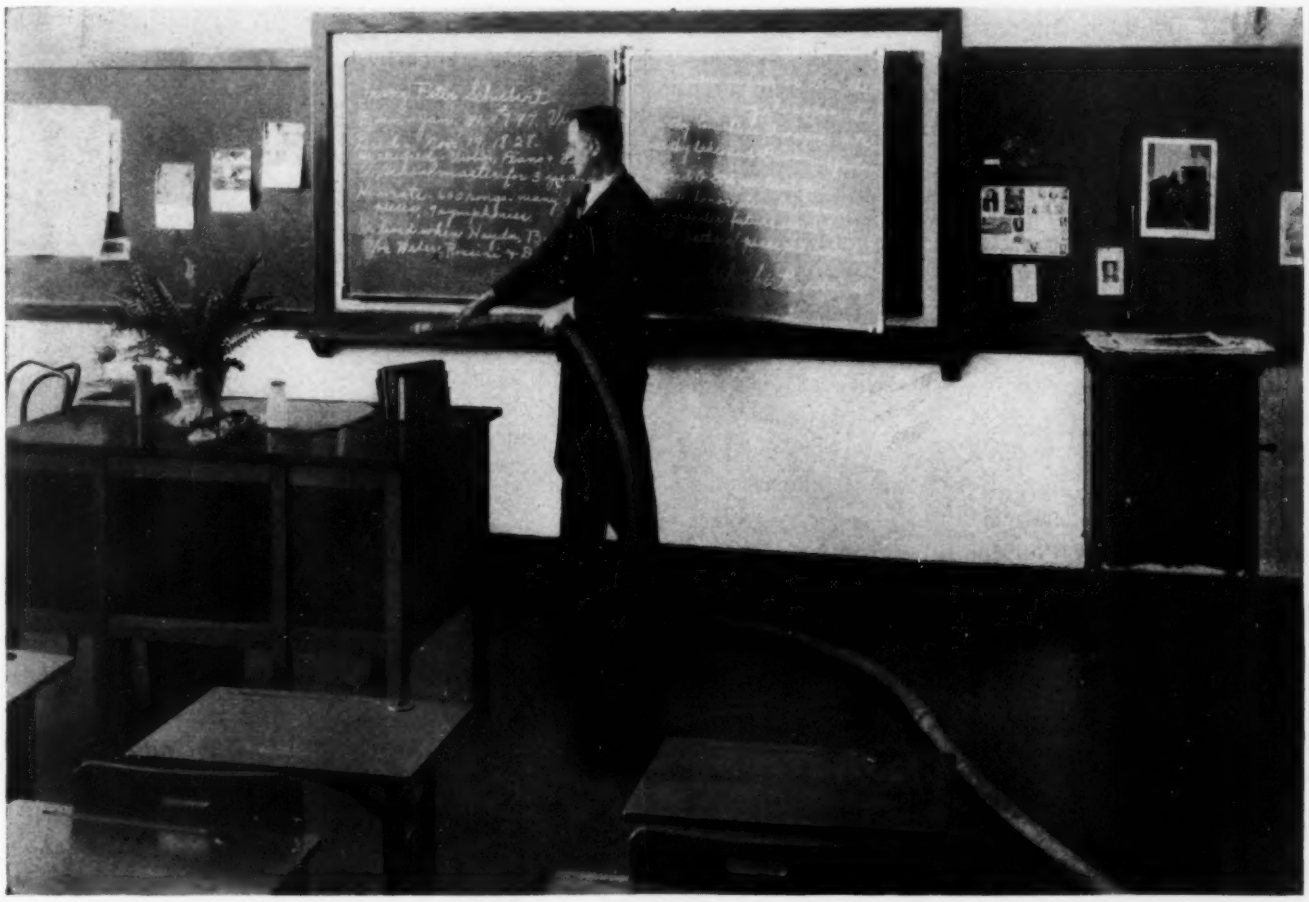
An ascending salary schedule, based on training and service, is suggested in this study as a means of staffing the schools with efficient and intelligent janitors

By CHARLES J. DALTHORP, Superintendent of Schools, Aberdeen, S. D.

MUCH has been said and written about the value of the school janitor. Dr. F. B. Dresslar, Peabody College, Nashville, Tenn., says in this connection: "The janitor of a modern school building, next to the principal, is perhaps the most important officer in the school." Dr. Lewis Terman, Stanford University, Calif., expresses a like opinion when he says: "The position of janitor is a responsible one; no other individual about the school building, unless it is the principal, has as much influence over conditions that affect the health of the pupils." Still another authority says, "A good janitor is harder to replace than a good teacher or a good principal."

C. E. Reeves, Elmira College, Elmira, N. Y., in "An Analysis of Janitor Service in Elementary Schools" sets forth the following reasons for adequate janitor service: school health and sanitation; the influence of physical conditions upon the comfort and learning attitude of the child; the influence upon pupils of order and cleanliness of buildings in the maintenance of discipline, the formation of character and the acquirement of habits of cleanliness; the wider use of the school buildings and the equipment by the school and the community; the care of valuable public property in the form of grounds, buildings, and equipment.

The larger cities in many instances have recognized the necessity for better janitorial service and have established janitor-engineer training



This janitor is using the vacuum cleaner to remove dust from the chalk tray under the blackboard.

schools. At the present time there are thirty such schools in existence in the United States. The smaller cities and towns—cities and towns with a population of less than 30,000—have for the most part done little or nothing to improve janitorial service within the past fifty years. The school janitor is selected according to various plans. In many places a low bid system still prevails. In some instances appointments are made on a political basis. Sometimes friendship, old age or the need for employment influences selections.

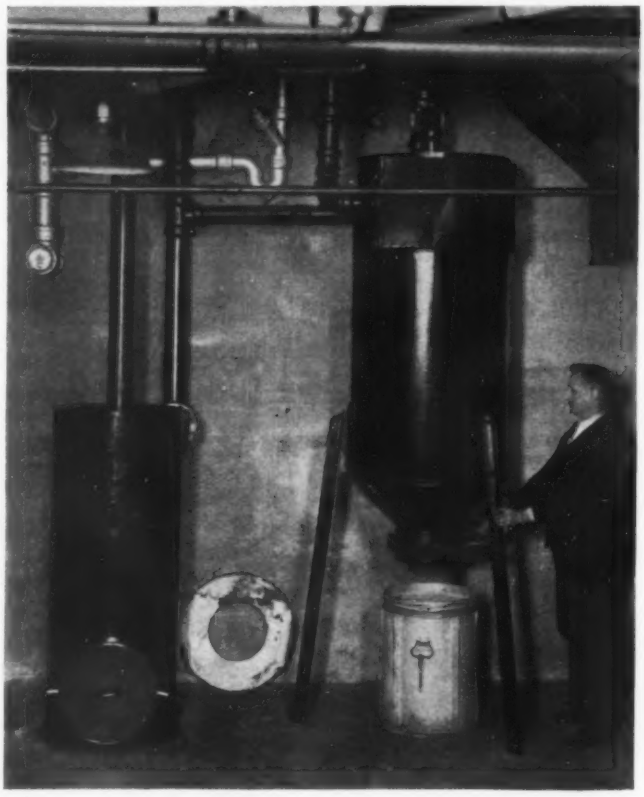
What Questionnaire Revealed

In a recent survey conducted in Minnesota and in North and South Dakota, in cities and towns with populations of 30,000 or less, a questionnaire completed and returned by seventy-seven superintendents of schools revealed the following information: Only seven of the seventy-seven schools have janitor salary schedules; the average salary paid janitors is $100 a month, the lowest is $75 a month and the highest is $160 a month; not a single school maintains a janitor training school or has any plan for training janitors; most janitors work ten hours a day, twelve months a year; many of the superintendents reporting state that selections are not always made on merit, but are often influenced by politics and by other questionable practices; all are agreed that some means should be provided for training janitors.

Superintendents endeavor to improve their educational qualifications by extension university or college study. They pursue courses in educational supervision, plant management, school administration, finance, and other subjects designed to improve themselves as school officials and managers. But how many of them have taken a course in janitorial supervision, janitorial training or janitorial techniques? Not many. Yet it must be admitted that the janitor's work has a direct effect upon teaching efficiency. It influences the health of the child, and to a large extent determines maintenance and insurance costs. We establish elaborate health programs, prepare detailed educational supervision plans, organize maintenance forces and pay increased insurance premiums as a matter of course, while one of the determining factors of all of these, the janitorial service, is almost completely ignored.

Most of us have evaded the issue because we have not found a method to solve the difficulty satisfactorily. The time is not far distant when school janitors will be considered professional employees as important as the teaching personnel of a school. The time will come when we shall demand that candidates for janitorial service have sufficient training and preparation to fit them properly for the responsibilities of their positions.

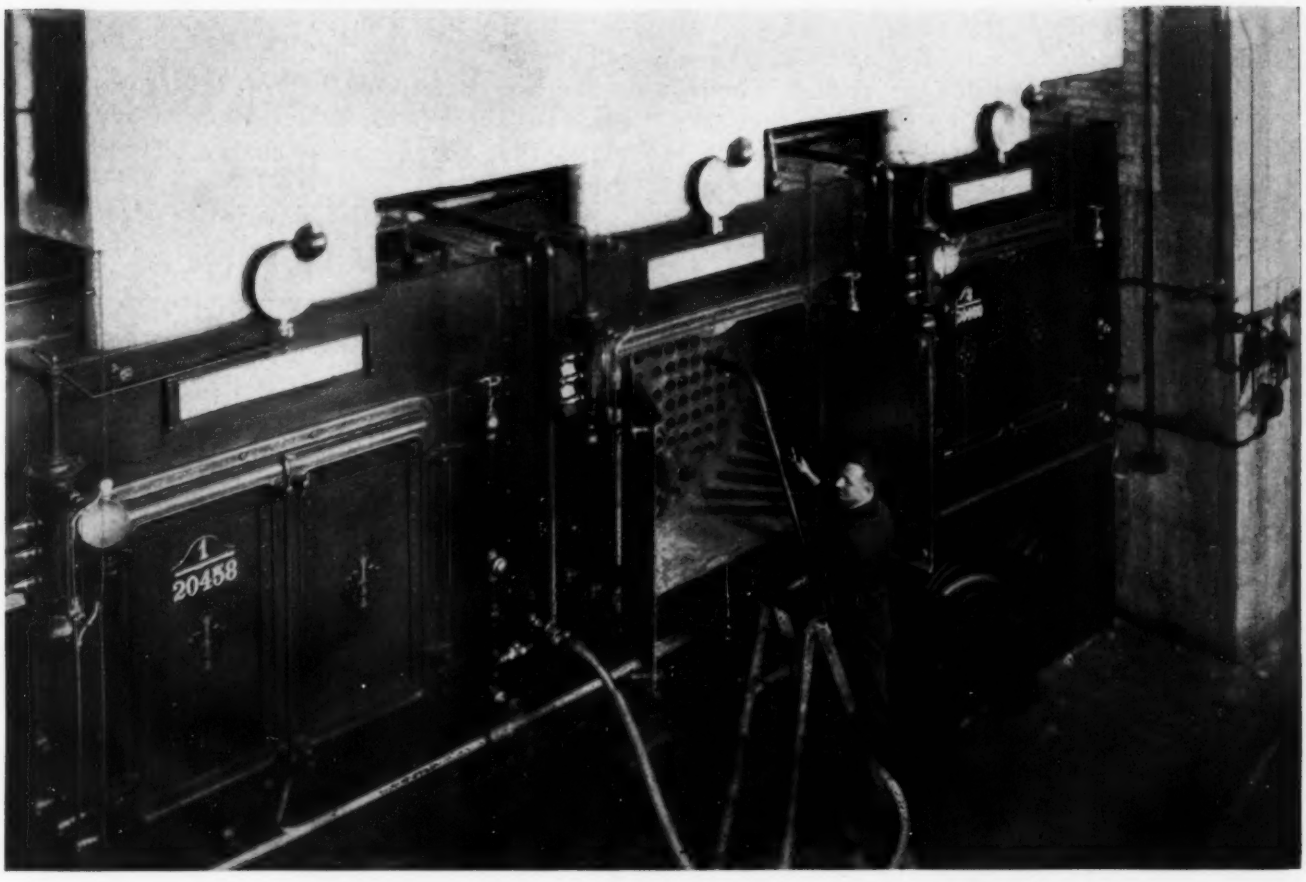
The question is: How can the smaller cities and towns train their janitors and janitor-engineers? The requirement is not so difficult to meet now that janitorial training schools are operating in many of the metropolitan centers, generally without tuition charges, under the Smith-Hughes, Smith-Sears, and Smith-Towner bills. In a system that employs several janitors and janitor-engineers, it should not be difficult to send one man to school for an intensive training period either in the Fall or in the Spring. The cost to the school would not be exorbitant and the returns would be definite. The individual who has taken the training course could be used as an instructor to train the other employees of the system in janitorial duties. The individuals sent for training should be the more alert, intelligent and progressive members of the staff. In systems employing one or two janitors it would be an ultimate economy to secure substitutes for the regular janitors



Dust and soot removed by the vacuum cleaner are finally disposed of in these two separators.

and require them to take training at the school's expense. After the principle has once been establishd, if a new man wishes permanent employment he should be required to pursue a training course in a recognized training school for janitors.

The following suggested schedule is intended to apply only to the smaller towns and cities in the



Here the janitor is removing soot from the boiler flues with the vacuum cleaner.

Northwest. It can be readily applied to towns with a school population of 200 or 300 or to cities with a school population of 4,000 to 5,000. It will not apply to the larger cities where extra supervisory officers, trainers, engineers and helpers are required. The basic beginning salary for a janitor-engineer is founded upon the basic living wage necessary, as reported by the United States Department of Labor in 1929.

A Suggested Salary Schedule

Salary I, $100 a month, apprentice salary: An applicant who gives promise of making a satisfactory janitor-engineer may be employed as an apprentice. The apprenticeship period is six months in length. At the expiration of this period the employee will be required to pursue a ninety-hour course in some recognized janitor training school designated by the superintendent. The apprentice will be paid his full salary and half of his expenses, provided he receives a certificate showing that his school work was satisfactory. If the employee remains in the service of the school a year after completing the course, the other half of his expenses will be refunded. No employee will be retained in service after the first six months unless he takes the prescribed training course.

Salary II, $117.50 a month, basic salary: This salary is paid after the employee has served the apprentice period of six months, has completed ninety hours of janitor-engineer training and has secured the license required by the state in which he lives.

Salary III, $122.50: This salary is paid when the employee has served a minimum of one year at Salary Schedule II and has completed a total of 120 hours of janitor-engineer training.

Salary IV, $127.50: The employee receives this salary after he has served a minimum of one year at Salary Schedule III and has completed a total of 150 hours of janitor-engineer training.

Salary V, $132.50: The employee receives this salary after he has served a minimum of one year of service at Salary Schedule IV and has completed a total of 180 hours of janitor-engineer training.

Salary VI, $160 a month, chief janitor-engineer: The employee receives this salary when he has given a minimum of three years of service at Salary Schedule V, has completed 580 hours of technical janitor-engineer training and, in addition, has qualified for a first-class license.

Special employees and stokers without training will be paid the apprentice salary.

The expense allowance plan for all salaries is

the same as Salary I, except Salary VI. No refund is granted to the employee on Salary VI.

The employment regulations should stipulate that no person shall be taken for apprentice service who is over forty or under twenty-one years of age; that anyone to be eligible for service must have completed school work equivalent to six years of work in a standard elementary school; that each employee shall be a citizen of the United States and a resident of the city where he is employed; that each applicant for employment shall agree to take the regular training prescribed at the expiration of his apprenticeship; that all employees must be of good character, neat in appearance and qualified for the service in other respects; that an employee to be eligible to a chief engineer's position must have completed school work equivalent to eight years of work in a standard elementary school.

The adoption of a schedule founded upon training, preparation and experience will mean higher salaries for janitor-engineers. This will be more than equalized by the improved physical condition of the school buildings, higher teaching efficiency, decreased maintenance costs, lower insurance costs and better health conditions. The administrator will make his janitorial selections upon qualifications similar to those demanded of teachers. Training, experience, character, personality, initiative and similar factors will be considered. Politics and other questionable practices that often influence janitorial selections will be largely eliminated. As the system becomes established in various states, legislation will control the qualifications for janitors and janitor-engineers as it now controls qualifications for teachers.

A Film Library That Is Serving Many Schools

For a number of years the American Museum of Natural History in New York City has been supplying films to the public schools of the city and is gradually building up a film library containing subjects for high school and elementary school presentation, says an article in *School and Society*.

The list of films for general circulation covers such topics as travel, mining, manufacturing processes, agriculture and natural history, all of which may be made to correlate with class work in geography, nature study, industrial art, chemistry, economic geography and biology. The museum has served schools in twenty states with these carefully selected films, both in standard 35 mm. width and in 16 mm. width, all on non-inflammable material.

No charge, except that of transportation, is made for these films. The museum, however, stipulates that no admission charge shall be made for the films.

A minutely classified descriptive catalogue of the film library is available.

The Why of the Remarkable Growth of Secondary Education

During the ten-year period from 1918 to 1928, the number of pupils enrolled in secondary schools increased approximately 2,500,000, a 143 per cent increase. These figures are given by Carl A. Jessen, specialist in secondary education, Office of Education.

In 1918 the total number registered fell slightly short of 1,750,000. In 1928 the figure had risen to nearly 4,250,000. Corresponding increases occurred in the number of teachers.

The factors causing this expansion in secondary education, according to Mr. Jessen, are numerous and complex. One reason which readily suggests itself as an explanation is growth in population. The estimates of the Bureau of the Census indicate that this increase has not exceeded 16 per cent. Thus, growth in population accounts for less than 400,000 of the total 2,500,000 increase.

Another factor of importance is the extended organization of junior high schools. Each junior high school established enrolls, as high school pupils, registrants who under the traditional organization would have been assigned to upper grades in the elementary school. The great development in junior high school organization since the war accounts for nearly 800,000 high school pupils who are registered in grades below those of the last four high school years.

It is seen that due to the two causes enumerated high school enrollments have increased 1,200,000—nearly one-half of the total increase.

The other half of the increase is assignable to a number of potent factors which, however, are not so easily segregated as are the two already discussed. The principal ones of these are:

1. Adoption by both educators and the public of the principle of democratization of secondary education.
2. Improved economic conditions.
3. Complexity of modern life calling for more training of those who are to meet its demands.
4. A definite belief by the citizenry that education is an important force in the life of the individual and in national and world progress.

Making Recorded Data Function in Counseling

What information should the teachers possess about the average child if he is to progress through his grades at a rate commensurate with his abilities?

By C. C. GROVER, Assistant Director, Department of Research and Guidance, Oakland Public Schools, Oakland, Calif.

IT SEEMS obvious that recorded data should function or they should not be recorded and that, insofar as time and money permit, the data necessary for counseling should be recorded. It is necessary then to do two things in connection with this discussion—decide what data should be recorded and show how they may be made to function.

What, then, are the recorded data that are necessary for performing this function of counseling? Dickson,[1] some seven years ago, listed ten factors upon which information should be available during the first year of a child's school life: chronological age; mental age; intelligence quotient; grade; accomplishment in school work; application or industry; health; home environment; nationality and language difficulty; special or unusual conditions bearing upon school success. For tests of high school pupils, he includes such factors as special comments of teachers relative to proper placement, the pupil's educational ambition and the pupil's expression of vocational interest.

Are Extensive Records Necessary?

Proctor[2] mentions, in addition to the results of mental tests, adequacy of previous training; social and economic status; health; character traits; personal disposition; personal ambition; special interests and abilities.

Other writers ask for still more extensive data and many psychologists and social workers are asking that public school counselors use case history forms covering several pages of typewritten material and requiring a minimum of three or four hours for securing and recording the necessary information.

It is desirable to distinguish at the outset between information necessary for the guidance of the average child and information necessary and desirable for the counseling of the so-called difficult child. These difficult children are sometimes called problem cases and constitute from 1 per cent to 5 per cent of the school population, depending upon the geographical location of the school and upon the opinion of the writer whose figures are being quoted.

The Keynote of Guidance

For such children, case histories of the type used by social workers are desirable and are probably necessary. For the treatment of these children no general rule can be set down, since each case is different from all of the others, and whatever data are necessary for proper adjustment should be secured. Such a procedure is not possible at the present time for all children in the public schools. The cost in time and money would be excessive and it is believed that the returns would not be commensurate with the necessary expenditure.

If we grant, then, that for the so-called problem child as complete a case study should be made as is possible with the facilities available, what is the minimum information necessary for the proper educational and vocational guidance of the other children enrolled in the public schools? This subject can probably be handled to better advantage if the different divisions of the school system—the elementary school, the junior high school and the senior high school—are considered separately. The elementary school will be considered to include the kindergarten and the first six grades; the junior high school, grades seven, eight and nine, and the senior high school, grades ten, eleven and twelve.

Proctor states that "rate of progress is the keynote of guidance in the elementary grades." This is believed to be an accurate statement and since in the first six grades all subjects are prescribed, guidance will largely be concerned with the quality and quantity of work to be reasonably expected from each pupil.

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[1] Dickson, V. E., Mental Tests and the Classroom Teacher, p. 99, World Book Company, 1923.

[2] Proctor, W. M., Educational and Vocational Guidance, chap. 3, Houghton-Mifflin Company, 1925.

What are the minimum data necessary for placing each pupil so that he may progress through the grades at his optimum rate? In making a list of these data it is necessary to know who is to get the information asked for and the time available for securing it. In the Oakland public schools, the time allotment for elementary school counselors is small and most of the information not immediately available from school records must be collected by the classroom teacher. Any school administrator of experience realizes how difficult it is to get classroom teachers to do home visiting and social work but, granting that they are willing to do such work, in most cases they have not had the special training necessary for it; and until such time as the services of trained persons are available, counseling for the average child must be done upon the basis of data that may be obtained from school records.

Advising Pupils in the Lower Grades

In the first, second and third grades it is believed that the following data will enable the counselor properly to advise the pupils under her care: chronological age; results of a mental test; health record; results of a reading test; school marks.

This information may all be carried on one card, or at the most on two, and is available in most school systems. The mental test may be given in the L-1 grade and again in the L-3 grade and the reading test in the H-2 grade. This is only a suggested testing schedule and any other one may be used if it will better fit the needs of the particular school. The chronological age and school marks of all pupils are available from school records and in most schools a health inspection is given at regular intervals and the results are available for the counselors.

In the fourth, fifth and sixth grades, achievement in subject matter becomes increasingly important. Fortunately, there are available in these grades reliable objective measures of such achievement. The mental test may be repeated in one of these grades—the L-5 is a desirable one —and in addition, a reading test and an arithmetic test may be given in the grades where the results obtained will be of the greatest assistance to the principal in his supervisory plans. A highly desirable substitute for this program is an achievement test battery to be given in the L-5 grade, but the time required for the scoring of the test is rather prohibitive unless clerical help is available.

In the junior high school, guidance is concerned with adjusting the work of the school to the needs and abilities of the individual pupil. That is, a continuation of the adjustment of the rate at which school progress should be made in the so-called integrating subjects is necessary, and in addition, again quoting from Proctor, "in the junior high school guidance begins to be concerned with the discovery of and preparation for life careers." For properly executing this second function, some additional information is necessary. One of the essential items is a knowledge of the mental idiosyncrasies of each pupil. Fortunately or unfortunately, depending upon the point of view of the reader, the abilities of human beings are not absolutely uniform and a measure of these abilities recorded on a profile chart will not be represented by a straight line but by a series of crests and troughs. Proper guidance, therefore, is not possible without a knowledge of these mental peculiarities.

A common criticism that is made of the American public school system is that it attempts to bring all of its pupils to one intellectual level in all subjects—necessarily the level of mediocrity—and that the special abilities and talents of pupils are either not discovered or, after being discovered, are neglected. There may be some justification for the leveling theory in the elementary school but certainly there is none in the junior and senior high schools. If a pupil excels in English and is deficient in mathematics, should he spend less time on English and more on mathematics so that his accomplishment in the two subjects may be equalized? In our opinion, quite the contrary. If anything he should spend more time on English and less on mathematics. If there is a significant difference in his accomplishment in these two fields—and we are assuming in this discussion that there is—after six years of common exposure to both subjects, this difference is not accidental but real and depends upon an unequal mental development among abilities. Any proper guidance, therefore, must take such inequalities into account.

Why a Personal Data Card Is Necessary

An excellent method for obtaining a record of the relative achievement of pupils in school subjects and consequently of their special abilities in these subjects is by the use of the profile graph accompanying an educational test battery. At the present time, the Stanford Achievement Test is probably the best available, and it is recommended that this test in its complete form be given to all entering L-7 grade pupils and that from the results of this test an educational age and an educational quotient for each pupil be computed. The record from the elementary

school will also be available and will be used freely.

In addition to the objective data that have been described, the personal data card now becomes necessary, but it is believed that a personal data card all of whose items may be recorded on one five by eight-inch card is sufficiently extensive. It is not necessary to describe these cards since there are a number of reasonably satisfactory ones on the market, nor is it necessary that all of the items be filled out for each pupil; but where information that it is thought will be useful for the future guidance of the pupil is available there should be a place to record it. Included on this card will be a record of the educational and avocational interests of the pupil, his participation in extra-curricular activities, any outstanding personal characteristics and a record of his vocational experiences. By the latter is meant any information that may be available about after school jobs, work done during the vacation and any other activities of similar nature.

Minimum Data Required—A Summary

In the senior high school the theory formerly held was that guidance should be concerned with preparation for the chosen life work of the pupil. Many writers have assumed that a choice of a life career is usually made in the junior high school but this has not been the experience of the Oakland counselors and consequently the exploratory and orientation functions of the junior high school must be continued. In connection with this point, a recent investigation at Stanford University disclosed the fact that 25 per cent of the seniors in that institution had not yet chosen a vocation. In addition to information previously assembled, a more complete record should be had of the interests of the pupil and of his vocational experiences, and the personal data card should be continued and additional entries made when necessary. School marks become increasingly important as pupils progress through the grades and the results of standardized subject matter tests will be used to supplement these marks. An additional mental test may be given in the L-10 grade and used as a check on the previous records. A promising field for the senior high school is that of aptitude testing. Satisfactory tests of this nature, however, have not yet been developed and at the present time aptitude testing has little of value for the school counselor.

To recapitulate, then, the minimum data necessary for proper guidance when the time allotment is somewhat similar to that in Oakland are:

1. In grades one, two and three—chronological age; results of a mental test; health record; school marks; results of reading test.
2. In grades four, five and six—the same as the first three grades with the addition of an arithmetic test to be given in a grade chosen by the principal. As a substitute for the mental test and the reading and arithmetic tests, an educational test battery may be used.
3. In grades seven, eight and nine—the cumulative record from the elementary school; results of the complete Stanford Achievement Test or of some similar educational test battery expressed in educational ages and educational quotients with a profile chart for each pupil; health record; a personal data card.
4. In grades ten, eleven and twelve—the cumulative record from the lower schools; a personal data card more fully filled out and with special attention given to future educational and vocational plans; school marks supplemented by standardized subject matter tests, and the health record.

The preference for objective data has probably been noted. This is not to be taken as an expression of opinion that the personal and emotional traits of an individual are not important but as indicating a feeling that at the present time any record of such data must be so highly subjective and so colored by the emotional reaction of the person doing the rating that it must be used with a great deal of care. Such data as the expression of opinion, by a teacher or counselor, on the character traits of a pupil doubtless have considerable value, if the person doing the rating is also to give the advice based upon such rating; but when such subjective data are recorded and used by some other person who does not know exactly what was meant by the original rater, the whole affair becomes hazardous. In the junior and senior high school, the counselor seeks to become personally acquainted with every pupil whom he counsels, and this personal relationship has an important place in any educational or vocational advice that may be given although it is not as yet of such a nature that it can be recorded with any great amount of confidence.

How May This Information Best Be Utilized?

Having completed a rather brief survey of the information necessary for the adequate performance of school counseling, the second question remains to be answered: How may these data be made to function? It is easy to answer this question in theory, but it is difficult to put the answer into practice. The suggested answer may be

summarized under the following two heads:

1. The use of the data in an administrative way by scientifically trained people: By this is meant that such functions as the assignment of pupils to special classes, the formation of ability groups and, in general, the interpretation of the educational and mental test data discussed in the previous section shall be performed by technically trained people. It seems almost useless to say that data of this sort are technical and scientific in nature and must be interpreted by those thoroughly conversant with their misuse as well as with their use. For this work both principal and counseling staff should be trained, and until such training has been secured one is almost tempted to say that this type of data should not be used.

Adapting the Course to the Pupil

2. The recognition on the part of the classroom teacher of the doctrine of individual differences and the use of the data described here in the problems of classroom instruction: For this purpose it is recommended that all of the objective records available shall be recorded in the teacher's class book so that in her instructional work she may have all the information that is on file about her pupils and may be able to adapt not only the content of the course but the methods of instruction to the ability of the pupils assigned to her.

Some dangers are connected with the second recommendation. Each teacher must regard the information given her as confidential; and while it is unreasonable to expect her to be a statistical expert, she must have some skill in the interpretation of test data. This familiarity with test data can be obtained only by their actual use in the classroom and it is believed that the recommended procedure should be followed. The dangers may be minimized by numbering the columns of data rather than labeling them; by faculty talks and group conferences on the subject; by extension courses and summer school work and by convincing the teacher that here is a tool that will enable her to get better results once she knows how to use it.

The position taken, then, may be summarized very briefly by the statement that for the average pupil only such data should be asked for as are to be used; that these data, when collected, should be used administratively only by people who are competent to use them properly; that with proper safeguards these records should be made available to every classroom teacher and should be used by her for the improvement of classroom instruction.

Indiana University Offers Doctor of Education Degree

A new professional degree, doctor of education (Ed.D.), to be granted by the Indiana University school of education, was announced recently by H. L. Smith, dean of the school.

The degree was created because of a long felt need for an advanced degree in the school of education, Dean Smith said. It differs from the Ph.D. degree in three respects. Each prospective candidate for the Ed.D. degree must pass a satisfactory qualifying examination one academic year prior to the time at which the degree is to be conferred; a reading knowledge of the modern languages will not be required unless it is needed for the prosecution of the thesis problem, and each candidate must present a thesis on some problem in the major field of specialization, according to the list of requirements. Also, the thesis may be in the nature of a mature and expert evaluation and organization of existing problems in the field of education or it may be in the nature of an original contribution through research in education, regarded as an applied science.

The qualifying examination will consist of two parts, one written and one oral, and will be designed to test the general knowledge of the candidate in the field of education not included in the written examination, and his ability to react in dealing orally with professional subjects. The results of these examinations, both written and oral, shall be considered as a whole by the faculty of the school of education.

Graduate Course Is Required

Other requirements to be met by the applicant, if he passes satisfactorily the written and oral qualifying examinations, are the completion of a graduate course of study in not less than three years, at least one year of which must be spent in residence at Indiana University and the selection of a major subject within the field of education and two minor subjects, one of which may be within the field of education. The course for the degree must be pursued under the direction of a committee of five appointed by the dean of the school of education. Not less than ninety semester hours of work taken in graduate status at this or other institutions must be completed by the candidate, with a scholarship average of not less than "B" in all his graduate work. A final oral examination covering the thesis and the major and minor fields will be conducted by the candidate's committee in the presence of such members of the faculty as elect to attend.

A Kindergarten School Where Education Is Life

The kindergarten building of the Oakton School, Evanston, Ill., is a complete community in itself where the pupils are taught habits of courage, affection, initiative and adventure

By IRENE DIMOCK and DORIS ROOD, Oakton School, Evanston, Ill.

"A PLACE to park the babies while the mothers play bridge." "Make the age eighteen months, then the mothers won't have anything to do." Such were the opinions voiced by senators of New Mexico in opposition to a state kindergarten law. The law, however, was finally passed March 14, 1927.

Only four states now have no kindergarten laws. California leads the list with 52 per cent of its children of kindergarten age, from four to six years, in kindergarten. Michigan follows with 45.9 per cent. New York's percentage is 24.6 per cent. Illinois sends 20.9 per cent of its children to kindergarten. Wisconsin has the slightly higher percentage of 21.2 per cent. West Virginia and Tennessee are at the foot with 1.1 per cent.

There are approximately 700,000 children—a ratio of one in seven—in public and private kindergartens throughout the country. In New York City, in Chicago and its suburbs and in a number of other cities, there are private schools to which children of the upper classes are taken at the age of three years and where they are trained according to the newest psychological principles of education.

The kindergarten aims to correct the defects of the coddled and pampered child as well as to help the repressed and neglected child express himself. To the foreign born it is a heaven. Here they are taught not only American ways of personal cleanliness, but also sanitation and other matters that constitute American standards of living and conduct.

The eastern windows of the main kindergarten room overlook this shady formal garden, where a pool, hedges, a rose arbor and perennial borders complement the quiet dignity of the building.

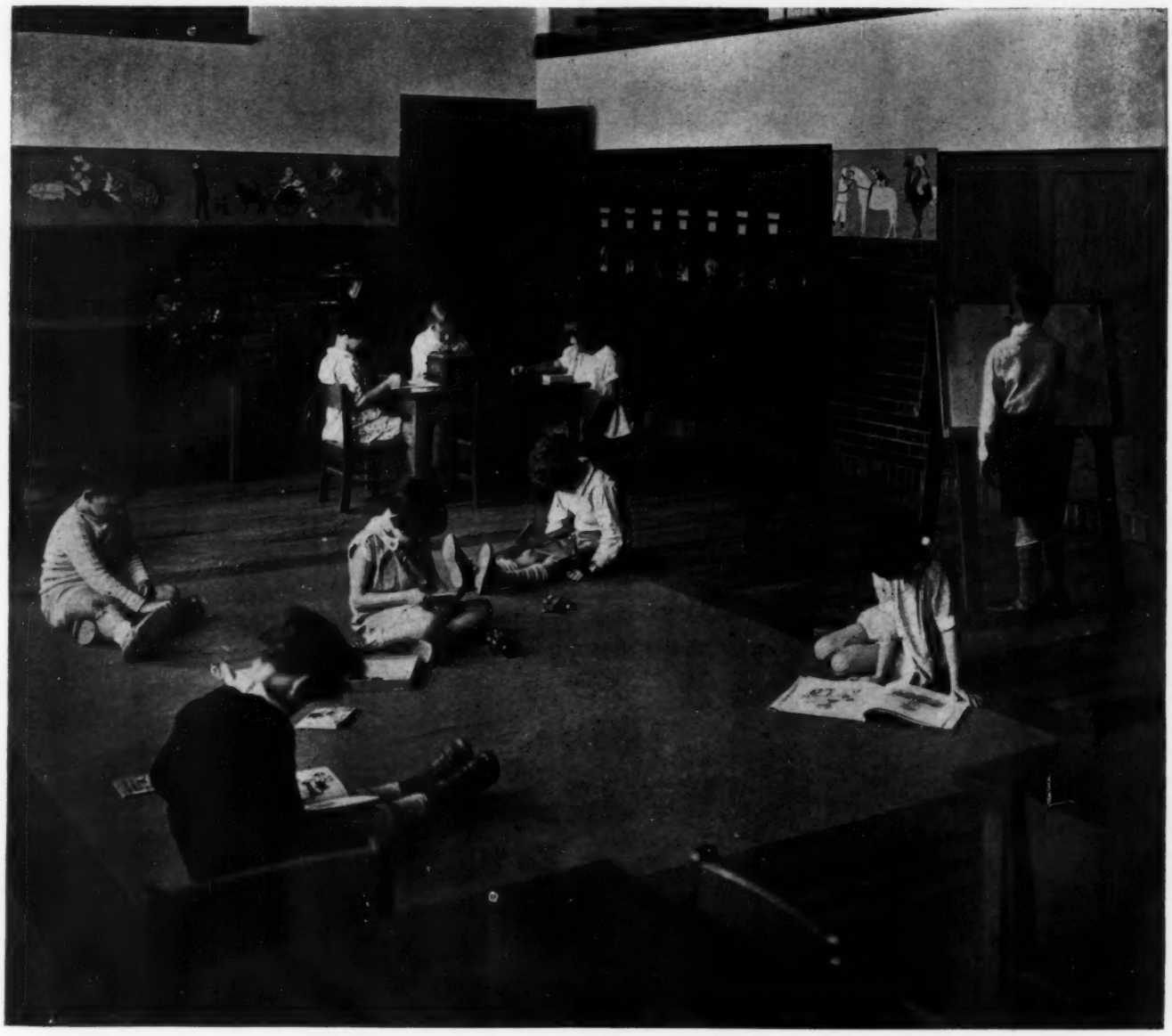
In many large cities, the kindergarten has reduced the repeaters in the first grade from 33 per cent to 7 per cent. Kindergarten children, as a group, are three or four months ahead of other children in the fourth to the sixth grades.

The "joy saloon" kindergarten of former years has given place to one where the value of happiness is appreciated in a constructive way, where negative habits of thought, fear and timidity are eliminated and habits of courage, affection, initiative, selection and adventure are fostered.

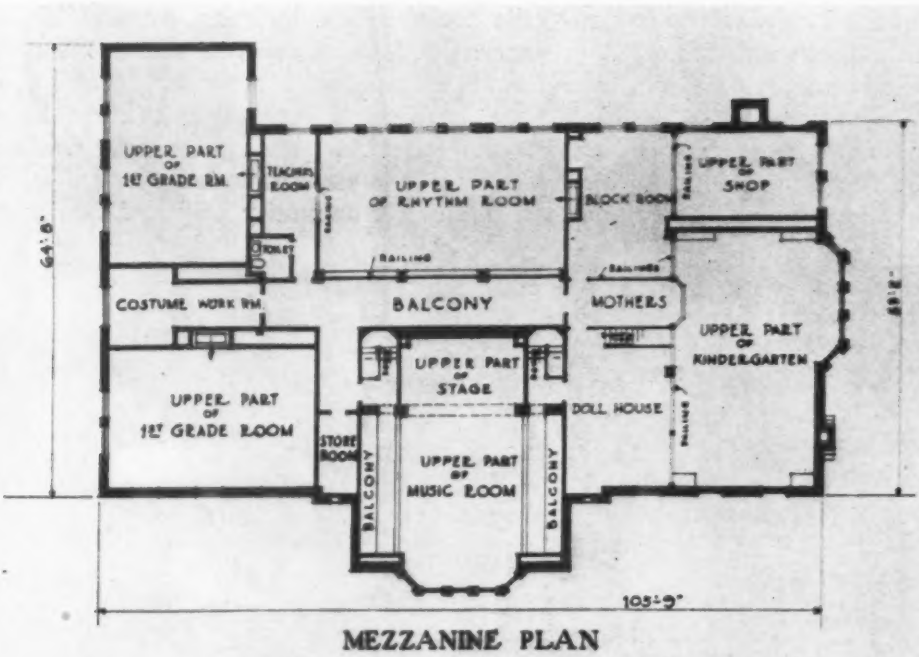
Modern school buildings are based to-day on the statement of John Dewey twenty years ago, a bombshell at the time, that "education is life, not a preparation for life," and the kindergarten building of the Oakton School, Evanston, Ill., is an illustration of this idea. The fact that the kindergarten building is entirely separate from the main school building permits kindergarten activities to be carried on more extensively than would be possible otherwise. The building has been planned to care for the future development of a departmental program that will accommodate six groups as follows:

Group I, community help and family subjects: living room with large fireplace; dinette and kitchenette adjoining, provided with sink, hot and cold water, electric grill, ironing board cabinet and supply and dish cabinets. Doll house in the mezzanine section.

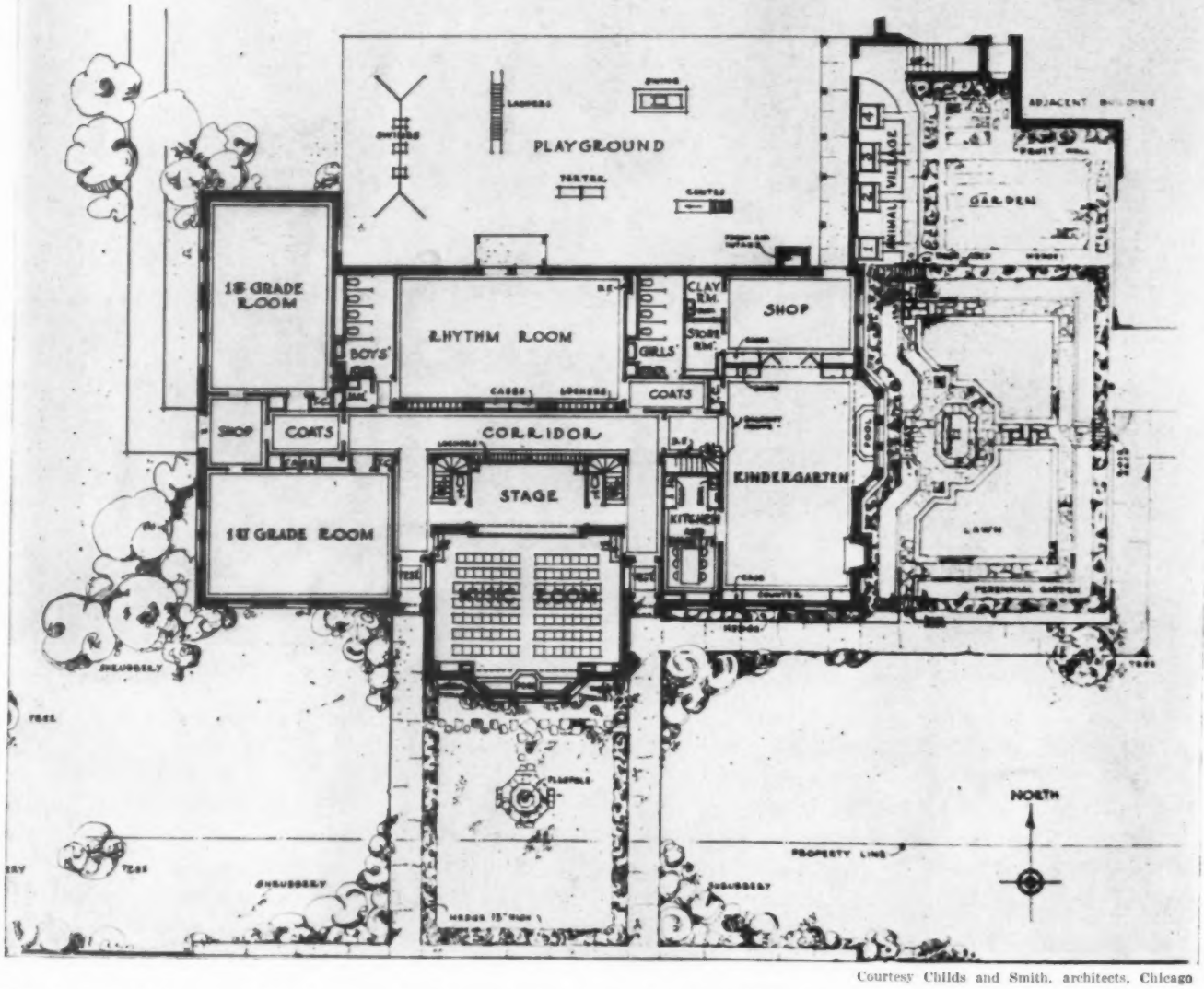
Group II, hand work and manual arts: shop with work bench and two large closets for the storage of clay, supplies and equipment; building blocks; woodwork, costume and stage setting; clay and sand boxes; water sports, sailing boats, and building villages on the rockery in the pool.



The room that will be the rhythm room or gymnasium when the building is entirely completed is now used for all kindergarten activities except music and dramatic work.



MEZZANINE PLAN



Courtesy Childs and Smith, architects, Chicago

This layout of the ground and mezzanine floors demonstrates how the building has been planned to teach children to be happy in a constructive way.

All music and dramatic activities take place in the Little Theater, which is decorated in vivid colors and is patterned after the Chauve Souris Russian Theater.

Group III, rhythm: marching; dancing; gymnastic exercises.

Group IV, music and drama: music and singing; music appreciation and piano; drama. All music and drama studies take place in the Little Theater, which is decorated in vivid colors and is an adaptation of the Chauve Souris Russian Theater.

Pupils Are Grouped According to Age

Group V, outdoor sports: playground apparatus in the yard; a formal garden, with pool, hedges, rose arbor and perennial borders; a vegetable garden arranged in parterres, with a fruit wall for pears and grapes; an animal village facing the garden, where in four miniature residences the rabbits, the kittens and the chickens are housed.

Group VI, rest period; a rest room in the mezzanine.

Kindergarten pupils in the Evanston schools are divided according to age into two groups—the seniors and the juniors. There are two regular teachers for each group, and they are assisted from time to time by cadets from the near-by kindergarten college.

The seniors, in groups of about fifty, meet in the morning from nine to twelve o'clock. The first procedure on the program is a rigid mouth and throat examination. In this way, the spread of colds and epidemics of a minor character is controlled so far as possible. Children who give any evidence of illness are sent home immediately, before infection is communicated to the other pupils. The junior kindergartens meet in the afternoon from one to three-thirty o'clock and are composed of children of four years of age, who graduate into the senior classes at the age of five.

In the kindergarten home room, the children are kept busy with many kinds of activities. They paint, they draw, they sew and they weave. They gather on the rug in front of the fireplace for story-telling, for joyous adventures with picture

books and for talks. The large pool in the room gives them an opportunity to test and sail the boats they have taken such pride in making.

Adjoining this room is a workshop where woodworking, painting and clay modeling are done. Many articles, such as furniture, bird houses, toy animals, airplanes, boats and trains are made. The painting of these wood products, the molding of bowls, vases, marbles, candlesticks and dishes out of clay and the preparation of scenery for the necessary stage settings make the workshop a busy and popular place.

To one side of the home room is a combined dinette and kitchenette which is used daily for luncheon and for birthday parties and other special celebrations. Cooking, which consists of the preparation of cocoa, apple sauce, jelly, fruit gelatin and similar foods, is done. Here, too, the children wash and iron the doll clothes as well as the bedding, the linen, and other things that their beloved toy families require.

Visitors' Gallery on the Mezzanine

On the balcony or mezzanine is a visitors' gallery. Here visitors may walk and inspect the school without interfering with the regular school program. In one corner of the mezzanine is a doll house, well furnished and supplied frequently with the necessary doll's house furniture, which is made by the children. Here the daily routine duties of housekeeping are carried on. There is also space on the balcony for building activities that are carried on with large blocks and boxes. The many projects, such as houses, stores, villages, trains and boats, may thus remain undisturbed as long as the interest span lasts.

The room which will be the rhythm room or gymnasium when the building is entirely completed is now occupied by another kindergarten. All activities, with the exception of music work and drama, are carried on in this room.

The children's theater is used for singing, music appreciation and the drama. Every Friday the kindergartens alternate in having a program for the other group. These are planned and worked out by the children. Invitations are occasionally extended to the primary grade children to attend these musical and dramatic performances, and they, in turn, entertain the kindergarten pupils.

Rotating Program Is Planned

When the kindergartens of the Oakton school have grown to sufficient numbers, those in charge intend to plan a rotating program to make it possible for each group to secure the successive use of the home room, the theater and the gymnasium.

In a large unfinished room, which is to be the senior or "connecting" kindergarten when it is completed, are held rhythm exercises and games. During the winter months, the apparatus from the playground is brought here for the children's use.

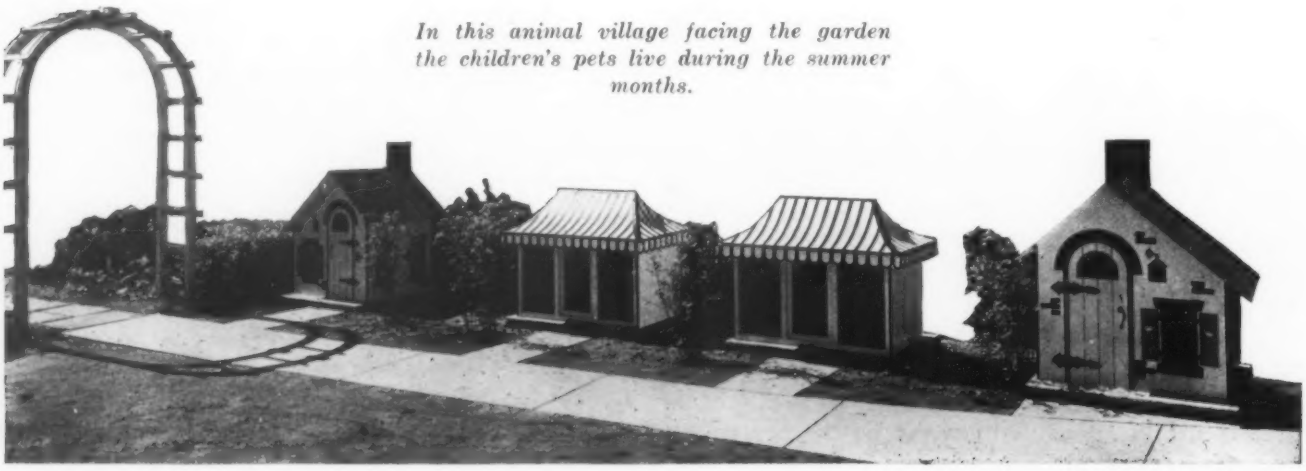
The playground, which is enclosed, is used by the kindergarten pupils only. It is well equipped with swings, ladders, chutes, teeters, a sand box and an assortment of large crates.

In addition to a formal garden that has an east and south exposure, there is a large space for experimental gardening. The vegetables, when they are ready for use, are served at luncheon. The children enthusiastically watch and care for their gardens.

Pets are another great joy, and attractive houses, which are brought inside during the cold weather, are always ready to receive them.

The Oakton kindergarten building has a ground area of 53 by 105 feet, a cubic content of 114, 409 cubic feet and was built complete, in connection with another unit of the school plant, for $50,000, or at a cost of 43 cents per cubic foot. The architectural firm of Childs and Smith, Chicago, drew the plans for the kindergarten building.

In this animal village facing the garden the children's pets live during the summer months.



Budgeting to Prevent Waste

In answer to the criticism that schools are spending too much, it is suggested that a carefully planned budget administered by the superintendent would effect a prudent expenditure of school monies

By CARMON ROSS, Supervising Principal, Borough Public Schools, Doylestown, Pa.

AT ONE of the meetings of the department of superintendence a well known university president questioned the propriety of the increased per capita cost, from $52 to $104, of high school education in a small group of Massachusetts cities during the past ten years. The results of this statement almost overshadowed everything else that was said and done at the meeting. It seems that whenever a suggestion of waste is made school administrators are immediately put on the defensive. The more level-headed administrators attending the meeting proposed that the schools begin to examine themselves from within to determine whether or not there are useless expenditures. Every business concern must do this. Why not schools?

Financially speaking, school budgeting is nothing more than the careful and prudent expenditures of school monies. The science of school budgeting is comparatively young. In Pennsylvania until the enactment of laws made budgeting obligatory, it was comparatively unknown except in the larger cities. Even to-day in this state the responsibility for budgeting is vague. Furthermore, budgeting is regarded by many as a mere method for distributing the estimated income among the nine major divisions of accounting. There is little thought in the mind of those making the budget of determining the needs of the district, of the available income, and of wise economy in handling expenditures.

Too much credit cannot be given to the lessons in economy to be learned by a study of the operation of the federal budget bureau as shown by a recent report of the bureau. Over one hundred closely printed pages are devoted to a statement of economies effected by the departments and establishments.

How the Government Saves Money

In many cases the economies practiced illustrate unexpected savings. For example, the government saved thousands of dollars one year by buying paper clips in larger quantity, by omitting the blue stripes on mail bags and by decreasing the size of mail order application blanks by one inch. Over two hundred thousand dollars was saved in the cost of postal cards and money orders through improved production methods in the Government Printing Office. The director of the budget tells us that the seven annual budgets sent to Congress that year carried a total of twenty-seven billions of dollars, which was one and three-quarter billions less than the amount asked by the departments. In spite of this huge difference from the estimates of department heads, the director of the budget claims, as does the President, that "the business operations of the government have never been conducted so efficiently." Over twenty-one million dollars was saved by organizing a "2 per cent club," the members of which agreed to save at least 2 per cent of the money appropriated for the civil service by permitting a number of vacancies in the service to remain unfilled, without injury to the service. "The Woodpecker Club" is the latest organization to enlist the membership in a campaign for small savings in the various government departments and service throughout the nation. This is merely another effort at constructive retrenchment.

Pennsylvania's Budget System

The introduction and organization of a budget system in Pennsylvania under former Governor Pinchot not only revolutionized government finances in the state, but resulted in the saving of millions of dollars and for the first time in fifty years made possible the payment of state school subsidies on the day they were due.

In a recent book on "The Tragedy of Waste" by Stuart Chase, "illth," the useless waste of wealth, is shown to be enormous. There has been and there is waste of everything—coal, minerals, oils, forests, soils, advertising, human life, man power, and there is waste through poor technical methods in production and distribution. Mr. Chase says:

"Half and more of our man power counting for nothing; half and more of the yearly output of natural resources needlessly scattered and destroyed . . . a billion slaves of energy turning useless wheels, dragging unheeded loads. Motion, speed, momentum unbounded to an end never

clearly defined, to a goal unknown and unseen. If there be a philosophy of waste, it lies in the attempt to clarify that goal, to turn men's eyes towards the whyfore of the sweat of their bodies, and of their brains. . . . It almost seems as though there were a relentless law at work which, with every gain in invention, every improvement in technique, threw off a stream of parasites to eat up the slack and leave us where we were."

We Are a Wasteful People

This is, indeed, a gloomy picture of waste! That we have been a wasteful people cannot be denied. The very lavishness with which nature has blessed us, the bigness of all our business undertakings, our limitless wealth, have all encouraged the squandering habit. It would be strange, therefore, if in our educational methods, both instructional and financial, we had not followed suit.

It would be foolish to infer that because school costs have increased more rapidly than our poulation, our wealth or our income there has been any appreciable waste in the expenditure of school funds. Even the most rabid critic will admit that the increased cost of schools is logical though it is regrettable. As far back as 1920 Burgess, in one of the best studies ever made on "Trends of School Costs," specifically called attention to the fact that over a five-year span (from 1915 to 1920) it would be necessary to double the school budgets in order to secure the same educational service, and that "no immediate recessions in prices or wages are to be anticipated immediately." His prophecy was correct.

But the critic is abroad. The schools are criticized not only for alleged poor scholastic work but for spending too much. The Lowells, the Butlers and the Pritchetts are ably seconded by the chambers of commerce and by "associations for the retrenchment of public expenditures." A pamphlet entitled "Sanctified Squander," with its recent supplement, published by "The Association for Retrenchment in Public Expenditures" is a remarkable exhibition of this movement. Two brief sentences from it illustrate this point: "Taxpayers all over the United States are smarting under the sting of oppressive state and local taxation. . . . Chief among the most reckless of the tax spenders are various boards of education and school trustees. These bodies, acting in most cases under the direction of the school politician, are squandering public funds with an abandon never before known."

The purpose of this paper is neither to point out wastes in education, except for illustrative purposes, nor to advocate any methods of cost accounting or of budgeting. I am trying to develop the proposition that if careful budgeting of a school's resources, and of present and future needs as determined by a sound policy is practiced, it will be possible to follow a plan of wise retrenchment without foregoing necessary expenditures. In the administration of any enterprise it is of course possible to follow such penurious economy that effective work would be materially interfered with. Nothing of the kind is advocated. A constructive economy program is "Save money where it can properly be saved."

In Pennsylvania the law requires that school boards adopt a budget for the following year whenever the tax rate is fixed. A serious defect of this law is the failure to fix responsibility for initiating the budget. The superintendent of schools or other chief executive officer has no legal responsibility for performing this function unless the school board delegates this power to him or instructs him to take the necessary steps in formulating the budget.

An essential weakness of this law may be illustrated by the instance of a school board in a third class district that merely followed the main outlines of the budget of the previous year without consulting the superintendent of schools. During the course of the budget year the board found a deficit of $12,000 in the allowance for salaries, because the board had created several new positions but had failed to make the necessary budget allowance.

The first important essential in budget making is the centering of this responsibility in the hands of the superintendent or of some one under his authority subject to the final approval or amendment of the board. The lack of this definite responsibility is a source of much waste, in that boards of education are not familiar with the needs of the schools and as a result appropriate too much or too little.

Administering the Budget

Budgeting in the hands of a responsible and careful administrator who has been trained in public finance should effect several important economies. First, the amount spent for instructional supplies, including textbooks and equipment, can be reduced. While the standard budgetary allowance for this phase of instruction is only between 5 and 10 per cent, and many economies cannot result except in large systems, nevertheless, all leaks should be stopped. No administrator will budget supplies for instruction without taking note of the previous inventories, the requisitions from teachers and the accounts of past consumption and he will then use these data

with an eye to the number of pupils enrolled. To all these must be added the requirements of the law for competitive bidding and buying at the lowest wholesale prices, quality always being considered. As a further check to waste, it is needless to say that supplies should be distributed through a central agency, only upon a proper requisition. The standardization of supplies will assist further in checking wastes in this field.

Making the Best Use of Teachers' Time

Since from 50 to 70 per cent of the budget is generally consumed in teachers' salaries, it follows that economies may be practiced in this department of expenditure, not in reducing or curtailing salaries but in limiting the number of teachers. Is it not time for us to determine carefully just what the relative efficiency is between small classes and large classes? We have been talking about teacher load more out of sympathy for the teacher than out of consideration for the taxpayer or regard for the welfare of the pupil. I think it is time that certain definite studies be made to determine in a scientific fashion how many so-called "vacant" periods teachers should have. Are we making use of the teachers' time to the best advantage? Budgeting will compel a superintendent to estimate carefully what his teaching force should be, largely in terms of future enrollments, size of classes and types of offerings.

In this connection it may be interesting to quote data just issued by the Office of Education on "Statistics of City School Systems." For 1925-26 the average annual cost of instruction per pupil in average daily attendance is reported as follows: $53 in the kindergarten; $63 in the elementary school; $86 in the junior high school; $116 in the high school; $150 in the special school, and $172 in the vocational school. This covers only the item of instruction, that is, teachers' salaries and instructional supplies in 2,872 cities having a population of 2,500 or more. The average number of pupils enrolled per teacher is also interesting: 55 in the kindergarten; 38 in the elementary school; 29 in the junior high school; 25 in the high school; 18 in the special classes, and 26 in the vocational school. Unfortunately, we do not have the data for the average enrollment in high school classes. Neither do we have the number of high school classes in which the enrollments are considerably under 12 pupils.

At present the budgeting officer is assigning teachers in the high school on the basis of number of classes, using his best judgment as to the size of the classes. Should we not begin to question whether or not it is efficient for high school teachers to teach 25 pupils in a class when the elementary teacher is handling 38 and the kindergarten 55? Should we not soon begin to question the expenditure of $63 per pupil in average daily attendance in the elementary school and twice that much for the high school pupil? Should the budget officer be concerned with this discrepancy? Have we ever stopped to consider that possible waste may arise from higher wage levels without increased efficiency or better instructional service? The question here raised is whether it may be possible to effect economies by increasing the size of high school classes without sacrificing efficiency of instruction. Furthermore, what effect on costs will certain new laboratory methods of instruction have? Shall we need smaller teaching groups, larger clerical staffs, different types of instructional materials and facilities? These are real questions for the budget maker and for the taxpayer.

In our own schools an effort is always made to utilize the time of all our teachers to the best possible advantage without in any way detracting from their efficient performance. For example, for years we have conducted classes for retarded pupils in the first five grades by utilizing the surplus time of our primary teachers whose pupils are dismissed forty-five minutes earlier than the other children in the morning and forty-five minutes earlier in the afternoon. This releases the time of several teachers to the extent of fifteen hours a week. This time is devoted to the coaching of pupils who have fallen behind in their work through absence or through lack of ability.

Exacting Full-Time Service From Teachers

By means of this device we have for years saved the salary of one teacher. Our special teachers of drawing, music and physical education assist us in relieving another grade teacher who supervises penmanship. In other words, when we employ teachers we do so on the assumption that their time during the school day is ours. I believe that business firms expect six or eight hours' work from their employees. I am not aware of any business that says, in effect, "Between 2:15 and 3 p.m. you may take a rest." Again in the smaller school systems do we employ supervisors of special subjects or instructors of such subjects?

It is doubtful whether any appreciable economies can be practiced in the operation and maintenance of the school plant. It is prudent to take care of depreciation, to employ efficient janitors and to maintain adequate heating systems. Janitorial supplies, which are never a

heavy item of expenditure, should be purchased wholesale. Utilities are furnished at public utility rates current locally. Fuel must be purchased through competitive bidding. The budgetary allowance for these two items, which consume from 12 to 18 per cent of current expenditures, merely serves as a check on what may be budgeted for other departments.

Budgeting the Pupils' Time

It may not be inappropriate at this point to suggest the importance of budgeting the pupils' time, especially in the high school, in order that waste through failures may be reduced to the minimum. In this way we decrease the teacher supply, the size of classes and the teacher load. The careful checking of the work of pupils during the year, the estimate of possible failures in the elementary school and the instant follow-up of such reports may in many cases reduce the number of failures. In our own schools three months before the close of the year we have managed by this procedure to reduce by 50 per cent the estimated failures.

In budgeting to prevent waste we must not overlook the fact that the method of administering the budget may defeat its very purpose and thus lead to waste rather than to its elimination. The budget should be so drawn up that ready checking of expenses up to date may be possible. A visual checking up on the budgetary allowance from month to month is an ideal method. In administering the budget it must always be borne in mind that the budget is a means to an end and not an end in itself. Emergencies may arise when it is not possible to keep within the budget. This signifies that the mere budgeting and administering of the budget enable the school board to act intelligently in an emergency. A wise provision of the Pennsylvania law is that items may be transferred from one department to another whenever occasion requires. This provision not only will help the administrator to live within his budget but will compel the regular checking of the budget to determine whether or not the school is functioning within the budget allowance. In other words, the main value of the budget to the superintendent is that he can see accurately at all times just what he can do and what he cannot do.

I have attempted to call attention to the necessity of carefully planning the expenditure of school funds to the best possible advantage. "The budget will be as good as the maker." Budgeting will not necessarily mean the spending of less money, but it will mean wiser spending. Budgeting is an excellent method of introspection of educational needs for the future in the light of past experience. The budget is a check on what we may or may not do from time to time. The centering of responsibility in budget making is important. This duty should be entrusted to the superintendent, who should secure his data for making the budget from careful accounting and from accurate estimates of possible needs secured from his teachers and through child accounting.

Waste is so common in this country that it is quite possible the schools of America are not receiving the maximum results from the outlay of funds. It is the business of the administrator to face the problem of possible waste in every procedure. The opportunity to plan wisely should result in the prevention of waste. The discrepancy between cost of instruction for elementary and for secondary education, not to mention that for special and vocational instruction, needs to be carefully examined in every system in order to effect every possible saving. Wide variation in budgetary allowances for the same items in different school systems means one of two things—either some schools are spending too little or others are wasteful.

The administrator's real job is not so much to show that the public can fully afford everything that education costs, but to show that schools are getting one hundred cents out of every dollar spent. When this is done, the public will willingly meet the costs.

Helping the Individual to Rate His Health Intelligence

In connection with a successful career in health work, Dr. William R. P. Emerson, medical consultant in physical fitness, Dartmouth College, and president, Nutrition Clinics, Inc., has written a book which he has called "The Diagnosis of Health."

Believing that an individual's health should be as definitely diagnosed as his illnesses, Doctor Emerson issues in his book a challenge to positive health to everyone. He shows the individual how to rate himself in health intelligence and health habits and then provides simple, practicable rules for attaining the highest possible physical fitness. Besides clear directions for the individual anxious to attain optimum health, illustrated with a large number of cases from Doctor Emerson's experience with college students and others, the book also describes the organization and operation of health programs in schools, industries and whole communities.

The book is published by D. Appleton and Company, New York City.

The Rôle High School Advisers Play in Individualizing Education

Even a casual study of children inevitably leads to the conclusion that they need guidance and that all teachers should share in the task

By RICHARD D. ALLEN, Assistant Superintendent of Schools, Providence, R. I.

AT PRESENT there is no general agreement either in theory or in practice concerning the specific duties of the adviser in the junior high school.

In a certain school the adviser teaches the study of occupations to twenty-five different classes each week. This program leaves her practically no time for other activities and makes it impossible for her to become well acquainted with more than a few of her 900 pupils. In another school the adviser does no regular teaching but spends her entire time in testing, home visits, individual counseling and record keeping. She meets only the problem children, not more than from 5 to 10 per cent of the entire group. In still another large school the adviser is chiefly concerned with interviewing all pupils who are leaving school through graduation or otherwise and assisting them in finding suitable work and in planning their further training.

Some authorities advocate full-time advisers, others prefer part-time advisers and still others

These advisers discuss school problems and social and personal relations with the pupils.

believe that every teacher should be an adviser in her home room group. In view of these wide differences in theory and practice, it may be helpful to analyze the guidance functions of the junior high school and to discuss some of the problems involved in planning the program of the advisers so that it will be as effective as possible.

First, guidance should be regarded as a service that all children need and that is fundamental to economy and efficiency in the administration of the school program. It is the duty of the advisers to study the individual differences of pupils in order to help the school serve each child in accordance with his needs, his abilities and his interests.

To perform this task effectively it is necessary (1) to assign to each adviser a group of reasonable size so that it will be possible for her to know and to study each child, not merely the troublesome ones, for every child presents a different problem; (2) to enable the adviser to have frequent contacts with all of the pupils in her group; (3) to provide for the continuous study of the same group by the same adviser over a period of three or more years; (4) to provide opportunity both for group contacts and for individual interviews with the pupils assigned to the adviser; (5) to enable the adviser to utilize the data of objective measurements of educational achievement and of special abilities; (6) to provide the adviser with reliable objective measurements of general intelligence; (7) to make the adviser responsible for ensuring to each child a reasonable background of occupational information that may be of assistance at a later date in choosing his vocation, preparing for it, entering it and progressing in it, and (8) to make the adviser responsible for providing her group with a background of experiences in social relationships and of attitudes that will aid in the development of habits of cooperation, responsibility, tolerance and team work, which are basic to real success.

Monotony Destroys Initiative

The adviser who merely teaches occupations all day, who interviews and advises children all day or who confines herself exclusively to any special task in the guidance field soon finds a monotony in her work that has a narrowing effect. She finds herself saying the same things to each class, repeating the same advice to each pupil interviewed and following the same daily program. Every teacher encounters the same situation though not to such a great extent as the factory worker who is engaged in a repetitive task. Here is the danger of too high a degree of specialization, the dragon that has already destroyed many skilled trades and now threatens many of the professions, since it aims to reduce them to routine work requiring much skill but little understanding or judgment or initiative.

This problem is being solved by a great firm of industrial engineers which is trying the experiment of a redistribution of specialized jobs into integrated units. The old method was to have one man read meters, another make out bills, another collect bills, another listen to complaints, another repair equipment and another sell appliances. Each worker knew only his own task and neither thought nor cared about other features of the service to the public. In fact he lost sight completely of the service aspects of his work as a result of the divided responsibility. The result was a dissatisfied, critical and hostile public.

How Industry Has Solved the Problem

The new method is to select a young married man, educated, ambitious and capable. The company pays him a fair minimum salary with additional bonuses and commissions. He lives in the district that he serves; he reads meters and in his district does all the other routine tasks formerly performed by many individuals for many districts. But he does more, he adds personality and service and interest to the relations of the company with the public. When he reads the meter he may note that too much gas has been used. As a result he may regulate the stove or hot water heater, or he may suggest more economical types of light bulbs. He listens to complaints, but he also sells appliances that will meet individual needs. He repairs equipment and even sells the stock of the company to the users of the commodity. He is known to the people by name and they may call him day or night. He is the personal representative of a public service enterprise that was formerly considered heartless and impersonal. The higher the sales of commodity and equipment, the higher pay he receives. He must show results.

There is a real danger that our educational institutions may become factories and altogether too impersonal, too filled with routine specialists. With the thirteen years of the child's school life, divided into twenty-six terms and with possibly eight different individual teachers, supervisors and principals dealing with him each term, the number of specialists with whom a child comes in contact is almost sure to exceed 100 and sometimes 200. Each of these teachers sees the child for only a short time and consequently feels little responsibility for ultimate results. If education is to be service for the child, there must be fixed

responsibility, continuous treatment and better articulation. These the adviser must provide.

In an attempt to avoid the dangers of specialization and to make the adviser's task in the schools of Providence, R. I., a composite one and an articulating element, the following program has been evolved.

1. Of a twenty-five period load, the adviser is given one period a day for individual conferences and personnel work for each 150 pupils in her class.

2. Whenever possible, advisers are relieved from home room duties in order to assist in home room programs, to confer with other teachers and with parents and to meet committees of pupils.

3. The adviser is given one grade of pupils for whom she is responsible during their entire school course.

4. The adviser teaches the study of occupations to all of the sections of her grade for one period each week for three years. Thus she is responsible for the background of occupational information that all children need. She can study their reactions to occupational interests over a period of three years.

5. The adviser conducts a pupils' forum for one period each week in each section of her grade. Problems of personal and social relations are discussed as well as choices of electives, school activities and community problems. Thus the adviser has an opportunity to study individual social reactions. The class is conducted by the case-conference method.

6. The adviser will then have less than ten hours a week scheduled in other school subjects. The chief adviser or head of the department is allowed a period each day for conferences and supervision and may be allowed another period a day for the program making of the school which should be a continuous function.

How System Functions

Thus the head adviser may appear to be a full-time instructor in guidance work, but actually the classes in occupations and the student forums are charged to instructional costs, the extra allowance for the head of the department is charged to supervision and only the periods devoted to individual counseling are charged to guidance. In fact, in some schools the study of occupations and of personal and social relations is classified under community civics.

The costs of such a program may be summarized as follows:

a. For individual counseling, 6 class advisers at 1 period each for counseling equals 1 1/5 persons on the pay roll charged to guidance. This is the total net cost of the guidance personnel in a junior high school.

b. But with this are the following activities which are charged to instruction since they take the place of other subject instruction: 6 advisers at 1 period each in occupations equals 1 1/5 persons; 6 advisers at 1 period each in student forums equals 1 1/5 persons.

c. Also in the general overhead of the school, 6 advisers are working during the home room period while shop teachers share the duties of their home rooms. This equals 1 person. Thus the total program time devoted to counseling, orientation and personnel equals 4¾ persons.

d. In addition to this each adviser devotes much time at home and after school hours to the work. Moreover with six advisers there will probably be six times the interest in the work, and this is again multiplied through the inspiration of example and through cooperation and competition within the department.

Highly Qualified Adviser Is Needed

If the adviser's task is to be a professional one it must not be permitted to become largely routine and clerical. It must require responsibility, judgment, special qualifications and training, broad experience and information and an open mind. On the one hand, a narrow specialist cannot satisfy these requirements, and, on the other, the task should not be one in which the adviser will become a narrow specialist. Both of these aspects must be considered: The truly professional adviser can reconstruct a routine program into a profession but a routine worker may reduce a profession to a routine task; conversely, a routine program may blunt the professional spirit and viewpoint of an excellent adviser so that atrophy may result, while a professional program may challenge the interest and develop the latent abilities of even an average worker, inspire him to better professional training and result in continuous personal and professional growth. Principals must realize the importance of these facts in working out the program of the adviser.

But the average principal may still raise objections such as the following:

1. Counseling is a highly specialized task demanding rare tact, wide experience and special training. The counselor should be relieved from class teaching and from the clerical tasks involved in record keeping in order to utilize her training and ability to the utmost. I would rather have one first-class counselor for 1,200 pupils than six mediocre part-time advisers.

2. It is more economical to have the recording and statistical work done by clerks at 50 cents an hour than by professional workers at $2 or $3 an hour.

3. "Let every teacher take her part in the orientation program. That is the way to get them interested."

Are Objections Valid?

These objections seem so obvious and so logical that they deserve careful consideration.

Let us examine them in detail.

The single expert counselor for 1,200 pupils must devote her efforts primarily to problem pupils. There is a danger that she may lose sight of the so-called normal group. Like the dentist, who comes to the conclusion that 80 per cent of the population have pyorrhea because he does not come in contact with the normal persons, like the specialist who sees only subnormal children, like the social worker who deals only with delinquents, like the moral reformer who deplores the immorality of modern youth because of conspicuous young criminals in the news reports, so the counselor who deals only with problem children may get a warped picture of her problem. She needs contact with all kinds of problems. From pupils who do not need her assistance she can learn much that will help her with those who do need her aid. And there are services that the adviser can render to every child. These children are reached largely through the group guidance or orientation program and through the records of the personnel file. One highly skilled counselor as head of a department can be training and assisting five other counselors who are less skilled. If the head is promoted, resigns or dies, there is someone for the place who is at least partly trained and who knows the work, the pupils and the school. Continuity is important in the success of guidance work in any school. For this reason an organization is to be preferred to a person.

Can the records be kept by a clerk? Yes, if only cold facts are desired. Facts are useless, however, unless they are studied, unless they result in action of some kind or perform a useful function. The best way to compile useful records is to have the entries made by the person who seeks the information and is expected to use it. The clerical and statistical work is a necessary step for the adviser to take in becoming acquainted with her pupils and in studying her job. Any clerical work that does not contribute to this end may well be omitted. Most clerical work that is performed by clerks is of little use to pupils except to record the credits earned. The personnel features of guidance require records and statistics, but these give the adviser a basis for the scientific study of her pupils and are an important element contributing to her professional training and experience in advisory work.

"Every teacher an adviser" is a splendid ideal, but it seems scarcely practical. There are ways in which every teacher can cooperate. Every teacher can do something and should be expected to do so. But "everybody's business is nobody's business," and divided responsibility is poor policy. Guidance must mean continuity in the study and treatment of children. It takes time to study children, to make friends with them and to earn their respect. It is a task that not every teacher can accomplish even if she would. Some teachers, a few in every school, are willing to do the extra work and undertake the special training. If the adviser is to study all her pupils, her program must provide frequent contacts with them either singly or in groups. Individual conferences are necessary at times, but they are expensive. Group contacts through orientation activities make it possible for the adviser to meet each of her pupils two or three times every week for three years and to study his reactions to occupational interest, to personal and social relations and to activities that take place in the classroom and school.

Each Child a Problem

Children who are not obtrusive and troublesome have their problems. Any parent can convince us that each child is a problem. The only reason that the term is applied to the few is because, relatively, their problems seem to be more obvious and urgent than those of the many. Even a casual study of the needs of children leads inevitably to the conclusion that all children need guidance and that all teachers must share in the task. Such an undertaking cannot be successful, however, without definite responsibility and organization. No single individual can do the work alone. The adviser's work is not confined to helping children who are leaving school to find positions, to teaching occupations, to supervising a program of educational and psychologic testing, to home visiting, discipline or adjusting failures, or even to assisting pupils in the choice of curriculums. Guidance must do all this and more and must do it for all children. It must individualize education.

In providing education for all, group instruction became necessary for most children on account of the expense involved. Individual instruction is confined to a few. Likewise, with a

plan of providing guidance for all, most problems must be met by group guidance with provision for special individual attention only in problem cases. If children are to be guided or instructed in groups, the importance of such needs must be weighed in importance relatively with other instructional needs. If it can be shown that instruction in occupations and in the problems of everyday living (social guidance) is more important than other subjects in the traditional curriculum, it is a mere matter of changing the time schedule to introduce the new subjects. It costs no more to teach one subject than another provided the time, equipment and size of the classes are equal. A study of the relative values and of the needs of pupils almost inevitably leads to the inclusion of at least two periods of group guidance in the curriculum of the junior high schools.

Adviser's Task Must Be Varied

The result of making the adviser's task one of variety rather than of routine is that the position becomes something of a self-training device, like a self-sharpening lawn mower. As the adviser teaches occupations to the same group of pupils for six terms, she is herself acquiring a fund of information and interests that is sure to improve her work as an adviser. When she meets pupils in forum groups in the discussion of school problems and of personal and social relations by the case-conference method, she comes to know her pupils better, to be acquainted with their ideals, prejudices and loyalties and to recognize leadership in some, staunch dependability in others and lack of moral fiber in others. Such a study will make her a better student of children and a better adviser.

How Teachers Benefit

Finally, the constant handling of personnel data in the study of problems of adjustment in grading, classification and elective subjects, and the checking of her results with those of other advisers must lead to self-improvement, to a better understanding of the factors that condition success and failure and to a desire to know more in a field of research so fascinating. We no longer study nature entirely out of books. Live specimens are studied out of doors or in the laboratory. It is time that teachers should study children in school with every means that science, intelligence and sympathetic understanding can devise. They should study them continuously so that the human element in education, as in employment, may be handled in a more intelligent manner.

How Motion Pictures Contribute to the Teaching of History

A recent experiment conducted to evaluate the contribution of motion pictures to the teaching of history has proved that the pupils on whom the experiment was tried learned 19 per cent more and returned 12 per cent more than those who had no motion picture assistance. Pupil participation in classroom discussion was increased 10 per cent. While library and home reading was not increased, 40 per cent more voluntary reading was done in the classroom.

In making the experiment, twelve comparable groups of pupils in the seventh grade were taught for five months by six teachers, with no other difference in course of study than that ten reels of the Yale Chronicles of America photoplays were shown to the six experimental groups. Before and after each of the five teaching units, new objective tests were given and then repeated after the summer vacation to measure retention.

The conclusion reached by the experiment was that the pictures contributed to creation of interest, enrichment and retention. The only flaw in the conduct of the experiment was that the content of the course was necessarily to be adapted to the pictures available.

Schools Are Costing the Country No More Than in 1922

The ratio between the national income and public school expenditures has been almost exactly constant for nearly a decade, according to a study made by the research division, National Education Association.

Although more than 25,000,000 children and adults are attending public educational institutions, the cost of handling this enormous army is remarkably small, says Dr. John K. Norton, head of the research division. It averages about $115 a year for each attendant, for all public schools, elementary, secondary and collegiate.

The national income and public school expenditures in this country from 1922 to 1928 (with the exception of the years 1923 and 1927, for which the Office of Education did not collect statistics) are illustrated by the following table:

Year	*National Income*	*Public School Expenditures*	*Percentage of Income for Schools*
1922	65,925,000,000	1,580,671,296	2.4
1924	77,135,000,000	1,820,743,936	2.4
1925	81,931,000,000	1,946,096,912	2.4
1926	85,548,000,000	2,026,308,190	2.4
1928	89,419,000,000	2,184,847,200	2.4

Evaluating Education in Terms of Rural Need

County superintendents must understand rural problems if they are to plan a school program that will contribute both to the practical and the cultural life of the various communities

By C. L. RHOADE, Superintendent of Schools, La Porte County, Indiana

SEVERAL years ago, Glenn Frank, president, University of Wisconsin, addressed the Indiana State Teachers Association on the startling subject, "America and the Evils of Institutionalism." He explained how the American people are always ready to discover the need for new institutional machinery and to set up organization machinery. "But," he said, "in many instances when it is set in motion, it begins to run away from the original intentions and enslaves its founders and supporters." It is possible that in the school in some respects this may be happening. It is essential that those in positions of educational responsibility should be ready to study the needs of changing adult and community life that they may make the necessary changes to conform to present day needs.

The County Superintendent and His Task

The work of the county superintendent has to do largely with the education and training of rural citizens. He has a position of trust and a great opportunity to render service. Counties, like individuals, have local distinguishing characteristics. No one has a greater opportunity to make an indelible impression upon the future achievements of the county than the county superintendent. Fortunate is the county whose school administrative leader is free from political clubs swinging about his head and who is in a position to perform his duties without dictation. Fortunate also is the county whose superintendent plans and promotes definite objectives.

It is important that a rural school leader should know rural life and conditions. With personal experience in country life he can gain the confidence of his rural leaders and intelligently, with their assistance, make adaptations to the local needs. One of the great assets in school administration work is cooperation from the patrons. After gaining this cooperative background the leader should seek the latest information about advance steps in school progress and secure the support of local individuals and organizations.

That a rural problem exists cannot be denied. At the last election campaign much was said about the farm crisis. The failure of banks in rural communities and the great unrest of farmers indicate that some solution should be found. The special session of Congress indicates that there is need for rural relief or adjustment. Before discussing remedies it is well to consider the causes of the present unsatisfactory rural conditions. In a questionnaire sent to 200 farm leaders in La Porte County, Indiana, the following was the summary ranking of causes for present rural conditions:

The failure of farmers to cooperate effectively.
Inefficient rural organizations.
Unsatisfactory marketing system.
Lack of agriculture and home economics training.
The use of poor business methods on the farm.
Organized labor influences.
Insects, pests, animal diseases.
Excessive taxes.
Increasing number of luxuries.
Too many out-of-date methods.
Inadequate school education.
Too many farmers.
The absence of old-fashioned virtues.

What are the remedies for these conditions? In answer to the questionnaire, the farmers placed their suggested remedies in the following order: (1) cooperation, (2) education, (3) better business methods, (4) legislation, (5) more industry and thrift and (6) corporation farming.

Rural School Handicaps

The school has been and still is called upon to help accomplish national objectives. In times of conflict the school is called upon to help win the war. In times of peace it is asked to promote the cause of peace. The school played its part in helping to solve the antislavery movement and the prohibition movement. In the same way it may be possible for the school to assist in solving the present perplexing farm problem.

The rural school unfortunately has many handicaps that hinder the promotion of an educational program in keeping with rural needs. In many instances it is difficult to secure teachers especially trained for rural teaching. In Indiana progress has been made but we still find it necessary to use many teachers who do not thoroughly understand rural school needs and who are merely using the township schools as stepping stones to city positions. Another handicap is the lack of adequate supervision. In La Porte County we are fortunate in having a supervisor for health, one for art, one for home economics and several for vocal and instrumental music. At the time of introducing these supervisors, there was some feeling in the county that supervision was too expensive and unnecessary, but with the success of the work in the various departments under supervision, the citizens at large have become convinced that worth while results are being accomplished. I am sure, myself, that supervision is necessary for efficient work.

The lack of consolidation in certain sections is another handicap that progressive leadership can help to overcome. The one-room school served a purpose in its day, but in view of present day rural needs it has become inadequate. With the short periods for recitation, there is danger of the condition with pupils suggested by the little boy who said that at school he "sets and thinks and sometimes he just sets." Another little boy, when asked what he liked best about his school, said, "Going home." Rural communities need schools as adequately equipped as city schools.

One of the problems of the rural high school is the revision of the courses of study to meet rural needs. Indiana, as well as other states, is putting forth a great deal of effort to reconstruct the high school curriculum so that it will be more practical and effective in achieving results.

What Subjects Do the Parents Favor?

Some of the other rural handicaps are the lack of funds for vocational work, the difficulty of providing classes for subnormal children, the difficulty of maintaining high attendance standards and the limited length of the school term. We have a school term of eight and one-half months now in our country, and we are trying to lengthen it to nine months. People realize that they have to pay for the school, and many times, unfortunately, they hold back just a little. In the majority of cases, however, citizens in rural districts are sincere and loyal when they are convinced of the value of good schools, and they are willing to pay their hard earned money to support a school for the training of their children.

How do the parents rank the subjects that are taught in the elementary schools? The returns from the questionnaire show that they place first, reading; second, arithmetic; third, writing; fourth, spelling; fifth, physiology and health; sixth, history and civics; seventh, agriculture; eighth, geography; ninth, art; tenth, music.

The order of importance of high school subjects is as follows: first, business arithmetic; second, English and literature; third, health; fourth, vocational agriculture, cooking and sewing; fifth, citizenship courses; sixth, government; seventh, general science; eighth, American history; ninth, physical training; tenth, biology; eleventh, manual training; twelfth, geometry; thirteenth, algebra; fourteenth, physics; fifteenth, American social problems; sixteenth, commercial geography; seventeenth, European history; eighteenth, foreign language; nineteenth, art and home economics; twentieth, music.

One Way of Dealing With Rural Problems

From the standpoint of dealing with rural problems in terms of rural needs, we need to prepare our boys and girls for personal efficiency. If we could find some ideally successful rural citizen, a farmer let us say, and could find in that one individual exactly what we need in order to solve the rural problem, then, of course, we could dissect his characteristics and try to instill these characteristics in our boys and girls. But where are we going to find an ideal citizen who has all these characteristics? As we study different individuals we find that they differ largely in individual efficiency. One farmer is comparatively successful. His buildings are well kept up. He seems to be making some money. He takes care of his family. On the other hand, near him there is a man, another farmer, who is an utter failure. He is losing out. Of course, the hope of many is that legislation will make every one prosperous. Just recently I talked with our county agent leader for Indiana. I asked him, "How are we going to solve the rural problem?" He answered, "There is no hope for the *poor* farmer." He didn't say, "There is no hope for the poor farmer," but "There is no hope for the *poor* farmer." In other words, there is no hope for the inefficient farmer.

Take, for instance, the dairy business. Our county is a dairy county. Some men are feeding cows and trying to produce milk. If they were to keep records they would find they are doing so at a loss. They spoil the dairy industry for those who are making a profit, because they help to put a surplus of milk on the market. If these individuals would only make systematic records

and study them, they would find that they are not doing themselves any good.

To bring about individual success, we ought to train our boys and girls for individual efficiency. We need to train for physical efficiency. The health problem is surely one of the big problems of the school. In our county we have had a nurse for seven years. At first, our county people thought her work was unnecessary and that we were spending money uselessly. At the present time they feel that this work is exceedingly valuable. In fact, they would prefer to eliminate any other type of work than the health program. Of course, it is necessary that we have certain specific objectives in these various departments each year. We may especially stress as examples such matters as equipment for physical training for high school boys and girls, hot lunches in the school and immunization against diseases.

Our rural people, more than any others, must depend upon themselves. They are their own managers. They are not working under the direct supervision of a director who tells them what to do. They have to find out how to study, how to organize, how to use time efficiently. The solution of the problem of self-instruction and individual instruction will assist in accomplishing this result.

They need help along vocational guidance lines. Rural boys and girls, above everything else, ought to know the scientific method of solving their own problems by attacking farm management scientifically, taking advantage of new conditions as they arise and making the necessary adaptations for them. They must be able to think. Of course, the old belief that "knowledge is power" must be changed somewhat in keeping with the need for transferring that knowledge into action.

Practical Studies for the Pupils

Home economics is an essential subject in the rural schools. In La Porte County, we have county supervision. We start our home economics work in the fifth grade, and our rural patrons are greatly pleased with the results. They feel we are giving the children, even in the fifth grade, practical instruction in sewing, cooking and house decoration.

For the boys the work in agriculture is important. In our county we do not do a great deal of vocational work, but we are introducing club leaders into the county who are employed in the same way as our supervisors. They are forming projects for our boys and girls in home work, and they are doing the same for the boys in the agricultural clubs.

For individual efficiency it is essential that rural pupils be taught business methods. The farmer needs to know how to keep records, how to budget, how to figure costs, how to buy economically and how to market. In addition to training boys and girls for individual efficiency, there is a great need for preparing them to live harmoniously in a group. In other words, it is essential that we prepare our young rural citizens to develop group consciousness and group feeling. Since the questionnaire already referred to shows that cooperation is one of the rural essentials, surely in our training we must teach the young to find themselves as parts of a group.

Cultural Values Need to Be Stressed

Consolidation helps a great deal in developing community centers. It teaches children how to organize and how to carry on and to promote group activities. Athletics, too, are helpful in developing community spirit in that they encourage each player to take an interest in the group. Leadership for group activities is necessary. Many good communities fail in their efforts because they lack leaders. The rural school must not fail to develop those who have ability to organize and coordinate group activities.

On the other hand, we must not be too practical and lose sight of the cultural in rural education. We must prepare for efficiency, and for group life and group activity, but we must prepare for some of the higher values in life—the cultural values. Our rural people need to have encouragement along cultural lines that they may estimate values in terms of life and not in terms of money and property. Music, both vocal and instrumental, is as valuable for our rural boys and girls as for those in urban communities. In our county we introduced instrumental music about seven years ago. At first our patrons were skeptical about its value, but now they feel that it is one of the most valuable and important kinds of training that is being given.

Preparation for citizenship and preparation for service in our own county are promoted through our junior Red Cross county organization. The little service button encourages children to give service to others who may not be so fortunate. We have a county council. We elect our delegates in the various schools. Those boys and girls are really thinking in terms of others instead of only in terms of themselves.

If county superintendents will study the community needs first and then evaluate the various phases of rural school work in the light of those needs, they will have gone a long way toward helping solve the rural school problem.

Schoolhouse Planning:
Educational Policy and the School Plant

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

TWO articles on the school plant, "Relating the School Plant to the Instructional Process," and "Relating the School Plant to the Functional Organization," which appeared in the August and September, 1929, issues of The NATION'S SCHOOLS, outlined definitely the place of the physical plant in the school organization and gave a brief summary of the field of problems involved. With these two articles as a background in orienting the viewpoint I take with respect to the purpose and relative position of the school plant in present day progressive administrative theory and practice, this article and those that will follow will consider individually each of the different factors and steps involved in satisfying these needs.

Since the school plant must be considered as a secondary problem in the field of public education, the approach must be in terms of ininstruction. Therefore, before the question of immediate need even arises, the progressive school organization will have considered the entire problem of the school plant and made adequate provision for it in organization. Since the supreme function of public education in the United States is the instruction of the individual so that he may live successfully under a democratic form of social organization, the school plant becomes only one of a series of complimentary agencies that assist in the achievement of this purpose. Because of the large outlay and the relative permanence of the plant, it must be considered carefully in terms of the objectives of public education.

The determining bases for the development of the school plant are the educational policies in practice or contemplated in any school district. Since these policies vary with states and by communities within each state, by geographic and economic location, it is easy to see why it is not desirable to standardize the school plant and why each new structure represents a special problem and requires a special individualized solution. The efficient school plant should be a custom-made job, fitted specifically to the individual needs of a particular district.

The first step in any community is to develop in written form the educational policies under which the district is operating or is planning to operate. Theoretically, one might assume that all educational policies are developed long before the school plant problem becomes pressing. In actual practice only a few school organizations consider their entire program in terms of a long period. Most of the activities have been added in more or less piecemeal fashion to meet pressing demands. Since it is dangerous and economically unsatis-

Introducing a New Series

THE NATION'S SCHOOLS, realizing the educational and economic importance of the public school plant and believing that educational research in this field has resulted in the development of a practical technique, has asked Dr. Arthur B. Moehlman, a nationally known school plant specialist, to write a series of articles covering every aspect of the problem from the recognition of the need for a new building to the final use of the plant. These articles will appear in successive issues of the magazine beginning with this number. Each article will be complete in itself.

In addition, The NATION'S SCHOOLS has made arrangements with Doctor Moehlman to answer specific local problems related to the school plant. If the problems are of sufficient interest they will be published in the magazine; if they relate to factors that happen to be of only local interest, Doctor Moehlman will communicate directly with the writers. Questions may be sent directly to him or to The NATION'S SCHOOLS. This policy has been developed as part of The NATION'S SCHOOLS' desire to be of increasingly practical service to its readers and to the public schools.

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factory to develop a physical plant in terms of a program that has developed by the accretive or patchwork policy, the first essential is to give thought to those educational policies that will directly influence the physical development.

Educational policies may be divided into two groups—those that concern primarily the development of the instructional program and those that directly concern the organization and administration of the program. The second group was discussed in the two articles already mentioned. The first group will be considered here.

Extent of the Organization

The policies of this first group include (1) the extent of the instructional organization, (2) the character of the instructional process and (3) its philosophy, methods and administration. Ultimately all of these must be considered in terms of finance. This is a topic for later discussion.

The extent of educational responsibility assumed by any community will determine the character of the school plant. The minimum requirements for public education are set in each state by mandatory enactments commonly known as the compulsory attendance and child labor laws. Both types are mentioned because they are not well synchronized in some states, and the only way to ascertain what are the mandatory duties of the school board to maintain educational facilities is to make a careful study of both sets of statutes.

Other special statutes relating to the specific organization and duties of different types of districts also have some influence in determining the minimum educational program. In general, the narrowest conception of a required program is that of the seven or eight-year school common in rural districts. Any district that provides for only the minimum mandatory requirements according to the statutes of most states has a relatively simple school plant problem. One or more seven or eight-year elementary schools will meet its needs.

These state compulsory attendance and child labor laws set the minimum requirements of the educational organization at from seven to fourteen years and seven to eighteen years. The narrowest concept is therefore an elementary organization and the widest mandatory requirement is the traditional elementary-secondary organization.

In addition to the minimum requirements of the state there is also a group of permissive or "may" laws. These statutes make it legally possible for a school district to go beyond the general basic state need and organize specifically for the existing needs in a given locality in the state.

Through these laws most of the variations in organization breadth are secured. Many permissive statutes apply to districts of a certain size where actual life needs have developed far beyond the minimum requirements of the entire state.

The widest expressions of organization under permissive laws are found in our large cities. Here the educational organization may extend from a preprimary school to a university with graduate professional schools in law, medicine, dentistry and education. A great difference exists between the community that supports only an elementary school and a community that operates a complete program from the nursery through the university. The difference in physical requirements necessary to carry out this extensive program is immediately reflected in the problems arising in school plant development. One community may have need for a simple building once every generation. The second district, generally a rapidly growing area, has a constant demand for large and highly specialized structures.

Having a picture of the narrowest and the widest educational organizations, let us consider the average practice. Here the range in district size is from the village to the city well over 100,000 population.

The typical village organization is from the first through the twelfth grades, organized either upon the eight-four or the six-six plan of organization. The assumption of additional responsibility by the community has resulted in the development of a secondary school of some type. In the cities we generally find that the kindergarten has been added to the elementary organization and that some provision is made for special education upon the elementary level and that further differentiation is made in the secondary school, generally by the development of a two-year or three-year junior high school. Each change in organization is reflected in the physical plant. Every additional responsibility creates physical housing problems that did not exist in the simpler forms.

Where the Responsibility Lies

The power to determine the extent of responsibility rests with the board of education as the legal agent of the people and the state, in planning, executing and appraising the educational program under the law. The choice of a program will probably be made in consideration of pressing and strongly felt needs. Whatever the choice of the board in this respect, future demands should be considered so that costly building

errors may be avoided. While each community must, in the last analysis, make its own decisions, these should be made with a view to future tendencies and possibilities rather than arbitrarily in accordance with only immediate demands. Leadership in this matter should be assumed by the superintendent.

The present is a transition period in instructional organization, which up to the year 1910 was fairly stable. The eight-four was the dominant type in the North and the seven-four prevailed in the South. While there were variations from these basic types prior to 1910, they were minor in character.

The Transition Era and Its Effect

The period since 1910 has been one of transition. From it have gradually evolved broader definitions of elementary and secondary education. The elementary field now includes the period from infancy to adolescence. Expressed in years in its widest aspect this means a nine-year school with three years of preprimary, three years of primary, and three years of postprimary, covering the ages from three to twelve. More narrowly conceived, it includes only the first six grades. Secondary education in its widest conception includes the age groups from twelve to twenty-one years, or the period of adolescence. Considered from the current organization aspect, this means the junior high school, the senior high school and the junior college.

Basic changes brought about by the transitional period of experimentation in school organization has redefined elementary and secondary education in terms of extent. Laymen and even many professional school men appear confused by the variations and terminology in experimental practice. So many combinations exist that it is difficult to see the general scheme behind these differences. The more common forms of transition organization include: 6-6, 6-3-3, 9-3, 7-6, 7-3-3, 7-2-4, 7-3-3-2, 7-6-2 and the 7-4-4. There are many other combinations.

Since the acceptance of any one of these organization types is immediately reflected in the physical plant program, it is essential that a board of education consider seriously the future possibilities and plan its general policy in accordance therewith.

The adoption of the six-six plan means that the secondary school years will be organized as a single unit. This is the most frequent choice of smaller communities which hope to secure a secondary unit of such size that it may be operated economically. It entails one type of spacing policy and one type of building. Adoption of the six-three-three plan means another type of spacing, since in this case the intermediate course or junior high school changes the spacing policy and requires building differentiation. If the elementary school is planned for eight years, it is generally expensive to shift to a six-year school without sacrificing much space.

And what of the ultimate dominant organization? This is a difficult question to answer, and one guess is probably as good as another. I believe the general outlines of elementary and secondary education already mentioned will have general acceptance. Within these ranges there will probably be numerous special organizations of different schools to meet specific local requirements. Whether the California four-four plan of secondary education, the three-four or the seven-year organization will dominate cannot be foretold. Whether the present limits of compulsory attendance will continue to expand or develop in terms of individual potentialities cannot be foretold. About the only fact that is absolute is that we are in the midst of a transition period. There is, however, general acceptance of the grouping of elementary and secondary education. Considering these facts it is essential that the board of education consider without prejudice the possible future tendencies and adopt an organization that may be shifted economically. The adoption of any one of several of the transitional forms may make this possible, particularly in large centers.

The adoption of a basic philosophy of instruction is necessary to determine objectives, curriculum, curricular activities and methods of administration. Since administrative activity is merely a means to an end, the procedure will be determined directly by the objectives and activities. Under "administration" may be considered the factor of nonspecialization or departmentalization, supervised or self-directed study, home room or large hall social grouping, large or small class and size of plant.

Instructional Philosophy Is Necessary

Every one of these factors influences the development of the physical plant, both externally and internally. One form of organization requires a particular form of building treatment; another form may need something entirely different. Since procedures must be built up consistently from philosophy and policies, it is essential that the board of education consider a well organized and well balanced ideal towards which to strive. General policies may be classified as immediate or ultimate ideals, and the means of procedure as the gradually changing

methods by which the policies may be progressively realized. Policies should be broad. Procedures under these policies at any given time may be specific and detailed. Since it is impossible rapidly to change social organization or a traditional institution, it is good technique to set the limits and then attempt gradually to reach them. A well considered and carefully organized policy will enable the executive to plan carefully and economically in terms of a two-way program, the immediate and the ultimate. In this way fewer errors are made and the maximum of flexibility is assured.

Finally, the physical school plant is merely a crystallized expression of curricular objectives, activities and methods of administration at the time it was designed. It has no purpose apart from its function, which is to serve as an agency in the facilitation of the instructional process. Since it is relatively permanent in character, it must be considered as an agency in terms of its expectancy of physical life. It cannot be developed efficiently apart from its purpose. The only basis for its scientific and economic development is the adopted educational policies. Education is dynamic in character and tends to change as rapidly as new life needs become sufficiently pressing to overcome institutional inertia. The first step, therefore, in the development of the school plant program is the adoption of broad and carefully balanced educational policies.

The superintendent is the agent responsible for educating the board of education to the value of and need for such policies.

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Solution of Traffic Evil Rests on Safety Education in Schools

Safety education among both adults and children and intelligent cooperation of motorists and pedestrians have an equal place with uniform laws and regulations, and their effective enforcement, in the solution of the traffic problem and the prevention of accidents and fatalities, in the view of the third national conference on street and highway safety. This assertion is made in a statement issued by the conference.

The conference points out specifically that solution of traffic evils does not rest solely with uniform measures in handling traffic or on the diligence of traffic officials. Users of the streets and highways, whether on foot or in vehicles, have an equal responsibility, the fulfillment of which is essential to ultimate success in handling the problem.

Safety education in the schools, and among the public generally, it was pointed out, is a basic necessity in dealing with the matter .

Cooperation between traffic authorities and the public is described as the first requisite in approaching the question, and through which ultimately the largest measure of success is to be attained.

The Rapid Disappearance of One-Room Schools

The one-room school so characteristic of the early American education system is disappearing at the rate of almost 5,000 per year, according to the associate specialist in school finance, Timon Covert, of the Office of Education.

In 1918, when figures were first compiled on schools of this type by the Office of Education, there were approximately 200,000 in the country. In 1927-28, the number had been reduced to 153,000. At the present time it is estimated that there are about 150,000 or less.

The rise of the one-room school was due to circumstances, Mr. Covert points out. Sparse population in widely scattered areas, often separated by geographic barriers made necessary the concentration of public education in small units. Even to-day the population and the geographic situation, such as exist in parts of Vermont, according to the state department of education, always will require the retention of one-room schools. Mountains and valleys, great distances and a thin population, he further points out, make larger schools impracticable.

With the improvement of transportation facilities, however, a general elimination of the one-room school has come about.

"One teacher working alone with all grades and pupils of all ages cannot be expected to accomplish results equal to the results made possible by the specialization of the well graded school," he says. "One-room schools are taught by the least trained and youngest teachers; the percentage of attendance in one-teacher schools is far below that of grade schools; and the social advantages of centralized schools give them a superiority in training for life that small isolated schools cannot attain."

The Well Lighted Schoolhouse —A Cooperative Effort

Conserving the eyesight of school children is the precious task not only of the architect and the illuminating engineer but also of the teacher, the librarian and the custodian

By WINIFRED HATHAWAY, Associate Director, National Society for the Prevention of Blindness, New York City

ALTHOUGH there have been many schools without buildings, never has a building in itself, no matter how beautiful, constituted a school. A building contributes to the making of a school only insofar as it helps to facilitate the building that is going on within every school worthy of the name.

For this real building that goes on within there are two essentials—utility and beauty. One is just as necessary as the other; neither can be sacrificed. If beauty alone is considered, the result may be a group of esthetics without the foundation or the essential qualities to form an integral part of society—mistletoe feeding upon the oak. If beauty is sacrificed to utility, the result may be a workaday static world without the inspiration that is the impetus to progress. The building without must typify the building within. Utility and beauty must grow in unison.

The traveler often marvels at the palaces of high schools that are the pride of many a community, with their exquisite designing and with every modern device for efficiency and comfort. Fortunately, it is now only occasionally that the architect in his desire for symmetry places a window in front of the classroom, thus torturing the pupils who must suffer day after day the bodily reaction from eyestrain that almost in-

In this well lighted classroom none of the pupils is subjected to eyestrain.

variably results from their having to face light.

For the most part, far greater attention is given to high school buildings than to elementary schools. Necessary as are fine high schools, good conditions are, if possible, even more essential in elementary schools, first, because of the larger numbers of pupils attending them, and, second, because of the greater susceptibility of younger children to incorrect conditions.

Schools would doubtless resent being compared to factories, yet there are some points of similarity. In both it is the output that is the reason for their existence. In both the test of the output is the same—it must be able to compete with other outputs, to excel if possible, but at least to hold its own. There are, however, essential points of difference. The factory can use a selective method in choosing its personnel. In the schools only a most limited selection is possible. Moreover, in the factory the output is the finished product that must stand or fall by its acceptance or nonacceptance by the consumer. In the schools the product will never be finished; education is a continuing process. In the factory the human element enters into the production as a means to an end; in the schools humanity itself is the product.

Although, because of the mass production of the factory, the school objects to a comparison, in one particular it has much to learn—the factory has realized that untoward conditions seriously affect the product. In consequence, it has not only attempted to discover its difficulties, but has in many instances made an intelligent effort to overcome them. In one case, a factory that increased its lighting at a cost of 1 per cent increased its output 12 per cent, had less wastage of material, less sickness and loss of time and a greatly lowered accident rate.

What the School Owes Its Pupils

Many large department stores have also found that by not only increasing their lighting, but by arranging the proper type of lighting for each department, they have been able to increase their sales. Goods are easily seen, colors may be distinguished and matched if necessary and, in addition, intelligent sales persons make purchases attractive.

The school has been somewhat slower than the factory and the department store to recognize the value of such fundamentals in increasing output, in less wastage of material and in less loss of time. It, too, must furnish better lighting conditions adapted to its special requirements, and it must have a greater number of intelligent teachers to present carefully selected material.

Fortunately, many persons who are connected with the present day school, both within and without the building, are realizing that the chief avenue of educational approach to the brain is the sense of sight and that unless it is a well lighted avenue the probability of reaching the desired goal is more or less problematical.

Since the experiments of Dresslar and Southerland,[1] new school buildings are being planned so that the majority of classrooms face east or west. These exposures not only give a maximum of light with a minimum of glare but they provide some sunlight for all children at some time of the day. The old arrangement that made the rooms face north and south deprived half the children of all sunlight and gave to others a constantly changing light that required an unproportionate amount of attention to control it properly.

Ample Glass Area Is Necessary

Modern architects recognize the necessity for ample glass area, at least one-fifth and preferably one-fourth of the floor area. By experience they have learned that narrow mullions reduce shadows to a minimum and that since the best light comes from above the glass area should reach as near to the ceiling as possible; that windows placed too near to the front of the room will be likely to cause glare on blackboards; that high window sills are not to prevent the children from seeing out but to avoid shadows on the desks; that unilateral lighting helps to prevent cross lights and shadows and also obviates the necessity for the teacher's having to face the light with a possible resulting eyestrain; that if bilateral lighting is the only method that can be used, the windows should be to the left and rear and that the window sills, particularly those to the rear of the children, should be high enough to prevent children from having to work in their own shadows. It is with nothing less than astonishment that in these modern days one occasionally sees, even in a new school building, windows at the front of the room.

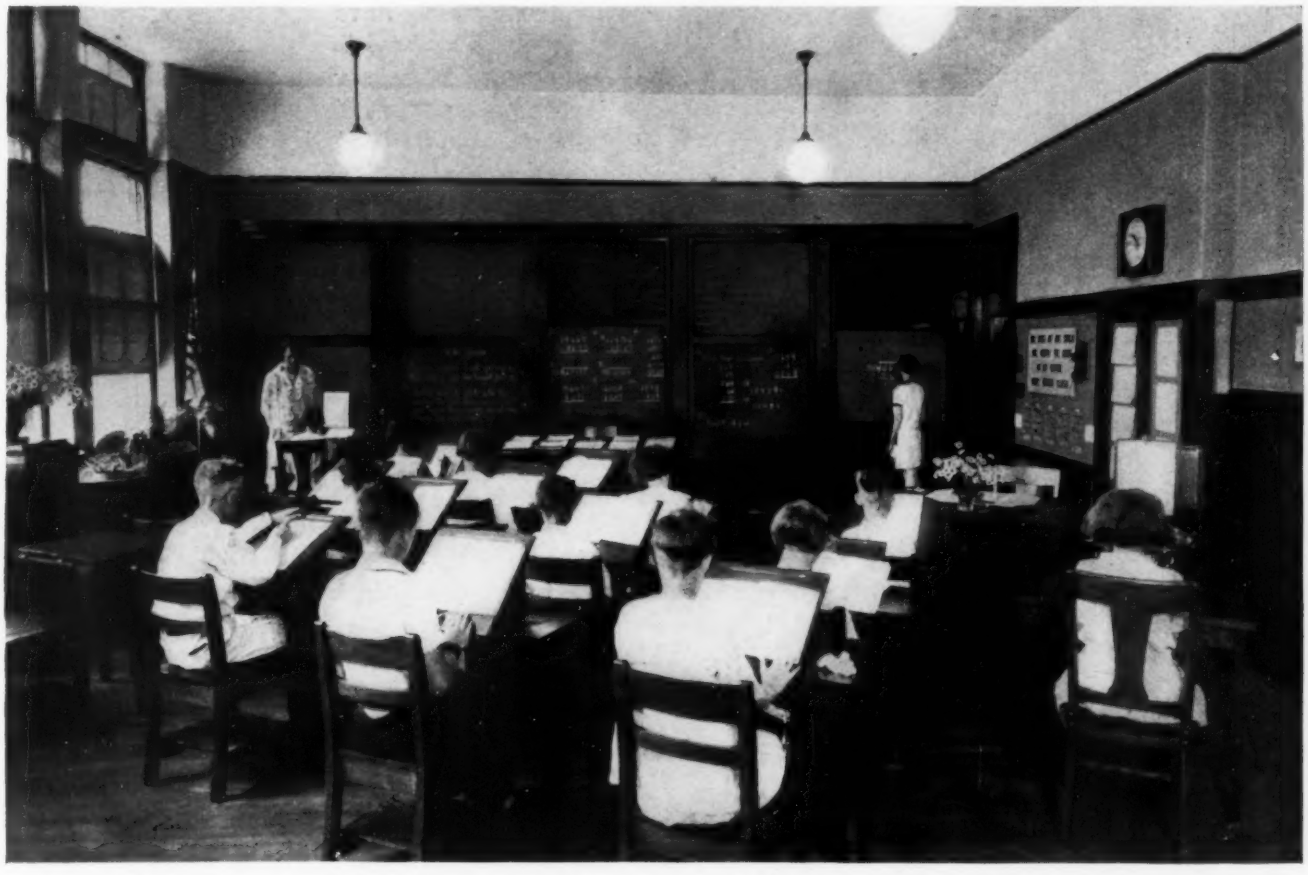
When an architect completes his plans for the best natural lighting of all rooms in a building, the task of the illuminating engineer begins. Every school that is used for evening classes or that is located geographically where there are dark days should be adequately lighted artificially. The use to which the room is to be put will naturally have to be considered in evaluating the lighting possibilities. Thus the illuminating engineer will not arrange for as much artificial lighting in an auditorium that is not to be used

[1] Dresslar, Fletcher B. and Southerland, R. H., The Orientation of Classrooms of School Buildings, Peabody Journal of Education, July, 1929.

for close eye work as in a library where such use of the eyes is constantly being made. He will know that rooms used for sewing or for commercial studies, such as bookkeeping, will require even a higher lighting intensity than ordinary classrooms.

His two great considerations, as in the case of natural lighting, will be sufficient, well distributed light for the work required and an absence of glare. In the classroom, for instance, a minimum of eight foot candles is suggested on all working plans, but twelve foot candles are recommended. This means that distribution is an important factor. Fortunately, the illuminating engineer, as well as the architect, may now combine utility with beauty. To be sure, the single electric lamp hung on a dangling cord from the ceiling of the schoolroom is not quite a thing of the past, but its race is almost run. The illuminating engineer will consider maintenance and will select a type of luminary best suited to school needs.

If each working plane is to receive twelve foot candles of properly diffused artificial illumination, the ordinary classroom, 24 by 32 by 12½ feet, will require six luminaries hung in two rows approximately six feet from the walls, twelve feet apart crosswise and ten feet apart lengthwise. It is advisable to have the lengthwise rows on separate switches, since children on the dark side of the room need artificial light more frequently than those near the windows. If a totally enclosing globe of translucent glass is used (this has been found the most advantageous for school buildings from the standpoint of maintenance), it will be hung approximately one and one-half feet from the ceiling to ensure proper distribution. A daylight glass is now available which gives an artificial illumination that blends well with daylight. Naturally, the globe selected will be of low brilliance to prevent glare both when it is lighted and when it is unlighted. A faint decoration in thin brown lines will add to the general appearance of the globe and will assist in preventing glare.



A sectional blackboard, raised desks and seats placed at an angle to the windows are features of this classroom.

If the room is used at night, or if the school is in a section where the days may be so dark that the natural daylight fails frequently, each luminary should be equipped with a 300-watt lamp. If, however, the illumination is for the purpose of supplementing daylight, a lower wattage may be used.

But even if the architect and the illuminating engineer use every possible skill to provide adequate illumination without glare, the interior decorator, the business manager who chooses the furniture or indeed the teacher who fails to put

the equipment to its intended use may nullify the best of their efforts. Walls, ceilings, woodwork and furniture should be in dull finish if glare is to be prevented. A light buff wall has a good reflective value. A white or light cream ceiling helps to distribute light evenly. Sunlight will be well diffused by two translucent, buff-colored shades hung at the center of each window so that one may be pulled up and the other down. Needless to say, these will not adjust themselves.

"Electric Eye" Is Useful

The changing daily and seasonal position of the sun must be taken into consideration. All too often the teacher becomes so engrossed in her academic work that she forgets to change the position of the shades when the sky becomes darkened or to turn on the electric lights when artificial illumination becomes necessary. A recent device called the "electric eye" is sometimes used as a sentinel. When the natural light drops below the desired amount, a signal from the "electric eye" automatically turns on the current.

A teacher in her enthusiasm to take rigid formality out of the classroom may seat her first and second graders about tables so arranged that half of them face the light while the others work in their own shadows. Another teacher in attempting to socialize her group may ask them to gather about her in a semicircle, with somewhat similar results. The librarian, eager to encourage a taste for reading, may permit children to bend over their books in such manner as to cut off the light.

The method common to so many schools of arranging seats in lines parallel to the windows imposes upon many of the children in the back of the room a glare from front windows. Also, light received on the horizontal causes high lights and shadows on material used on the desks. It is such a simple matter, if a little forethought is used, (even if the seats must be stationary) to have them arranged at an angle slightly away from the window so that the light will come from above over the pupils' shoulders.

Again, the light provided by the architect and illuminating engineer may have its value greatly decreased by the use of flat desks, over which the children will bend no matter how urgent and repeated is the call for good posture. A raised desk will help to prevent foreshortening of the printed or written page, and, what is far more important, will assist in preventing that congestion in the front of the eyes which comes from bending over a flat surface.

In other instances the architect and the illuminating engineer, the business manager and the teacher may do all in their power to give the best possible lighting values to the pupils, only to have them defrauded of their benefits by a janitor, who, because he is lazy, careless or overworked, allows an accumulation of dust on windows, transoms and globes to cut down the light supply to a fraction of its power, or who fails to replace burned out lamps.

For children with such seriously defective vision that they cannot make use of the ordinary school equipment, there have been established in many communities, sight saving classes in which special attention is given to correct lighting. If all children could have a like consideration throughout their school life, perhaps there would be fewer candidates for these special classes. But it is apparent that it must be a cooperative effort—the providing of good light, combined with the ability to use it correctly and the proper care necessary to maintain it adequately.

So may the eyes, the highroad of educational approach to the brain, be helped to reach the goal, not only with the least possible expenditure of time and energy but with something to spare for the appreciation of the world upon which they look, and for joy in their work.

What Educational Journals Do Prospective Teachers Read?

Many students who are pursuing the one-term course in Introduction to Education in the Stanford University school of education feel that the regular reading of educational journals, required by their teacher, Walter Crosby Eells, is the most valuable feature of the entire course, according to an article by Professor Eells in the *Journal of the National Education Association.*

The Introduction to Education course is a prerequisite to all other education courses for students who have not had teaching experience. Such a course, Professor Eells says, should be extensive rather than intensive. It should give a broad view of the entire field. For that reason, the reading of two articles a week from current educational journals was made an integral part of the course. At least ten different periodicals had to be represented during the course.

The most popular journals, in the order of their selection by the students, proved to be: *School and Society,* the *Journal of the National Education Association, School Review, School Executives Magazine, Progressive Education,* The NATION'S SCHOOLS, *California Quarterly of Secondary Education, American School Board Journal, Journal of Adult Education* and *Sierra Educational News.*

Adapting Study Conditions in the High School to Pupil Needs

Do all pupils need to have their study periods supervised? This article says "no" and proposes suggestions for a practical plan of ability grouping

By WILL FRENCH, Associate Superintendent in Charge of Curriculum Administration, Senior High School, Tulsa, Okla.

SUPERVISED study or, as it is more often called, directed study, rose into popularity a dozen years ago upon a wave of recognition that facilities and conditions for good home study were lacking in many of the homes from which high school pupils were coming.

The subsequent emphasis upon the importance of study and of study habits added strength to the movement. The result has been a variety of daily programs in high schools with periods of from sixty to ninety minutes in length, allowing for supervised study for all pupils. High school pupils were thus released from the lock step of unsupervised study only to be required to fall into the lock step of supervised study. The fallacy of the universal benefits of the latter is equal to the fallacy of the unmitigated evils of the former.

The supervised study program assumes that all pupils need to be taught how to study and that teachers are or can become qualified to increase the efficiency of their study. It implies that the pupils have not learned to study in the elementary schools. It implies that, for the first time at the high school level, all pupils are suddenly confronted with the need for knowing how to study. The fact is, of course, that while admitting these charges to be true of some pupils, we can deny them with regard to others.

Supervised Study for All?

Any practical observer who frequents high school classrooms can see that there are many pupils who do know how to study. Such pupils are able to obtain accurate and complete results with rapidity. They confidently attack the assignment as soon as the teacher has finished making it or even before. They know better how they should study than most teachers do. As a result, the supervision that teachers give to the study of this type of pupil is merely nominal. More recently, a careful study of the results of supervised study revealed that the benefits of such a program fall entirely upon the weak pupil, that the average pupil is neither helped nor hindered and that the work of the good pupil may actually suffer under the plan.[1] The necessity of providing supervised study for all pupils is, therefore, in question.

Cost Is an Important Consideration

Since others have shown that all pupils do not profit from a supervised study program it may be argued here that any school that provides supervised study for all pupils is operating at a higher pupil cost than is necessary, the supervised study program commonly providing longer and fewer periods a day.[2] The percentage of increased unnecessary expense is in direct proportion to the decrease in the number of daily periods and the percentage of the student group whose work is not benefited by such a program. School administrators admit that this rising cost of secondary education is giving them some concern and that meeting this increasing cost is a major financial problem which becomes more and more acute as the size of the secondary school population increases and the efficiency of the general property tax decreases. For this reason, might it not be wise for us to try to economize by restricting our supervised study program to those for whom it is a demonstrated benefit?

Moreover, supervised study as it is commonly practiced is not only unbeneficial to good students but it is positively harmful in some important respects. Many of the better students are actually acquiring sloppy, time killing and time serving habits of work, the exact opposite of which ought to mark their efforts. In a classroom where the teacher insists on each pupil's studying "her" subject until the bell rings, many able students proceed leisurely to their tasks, purpose-

[1] Woodring, Flemming, Directing Study of High School Pupils, Bureau of Publications, Teachers College, Columbia University.

[2] In some schools on the supervised program each teacher teaches four eighty-minute periods a day. A common practice is five periods of approximately sixty minutes each. The old practice was six, seven or eight shorter periods.

fully stretching the work out over the period. If the pupil has a more "liberal" teacher, he does his required work and spends the rest of the period in conversation, in disturbing other pupils, in sleeping, in day dreaming, in reading a magazine or in studying another subject. In neither case is any responsibility placed on the pupil for a wise use of his time or for energetic habits of work.

In theory, of course, the classroom is well provided with an abundance of interesting supplementary material from which the teacher draws each day just the "extra assignment" to challenge the interest of these good students, thus enriching the course for them. Our practice of supervised study, however, is far behind our theory of it. A visit to a dozen supervised study classrooms in typical high schools will be a revelation. Certainly, the school program should be calculated to instill in good students habits of rapid, systematic, accurate and methodical work and the careful, thrifty and wise use of time. Supervised study does not do these things for this type of student. There is nothing in it to provoke in him the exercise of initiative, resourcefulness, self-control or thrift in the performance of work or the use of time. Therefore, while the value of a program of supervised study for some pupils may be affirmed, the value of such a program for all pupils is denied.

The purpose of this article is to outline a program for senior high schools by which the advantages of supervised study can be retained for the benefit of those pupils who profit by it without enforcing it upon those for whom it has little or no value. For those who do not need or profit by supervised study this article proposes a program of self-directed study calculated to encourage initiative, self-reliance and the wise use of time. In brief, the plan consists of a program of hours of the usual supervised study length for those pupils whose records show that they will profit by such study while side by side with this program runs a program of shorter hours with self-directed study for those whose records give evidence that they do their school work upon their own initiative either in the school library or at home. The plan is here developed by listing the various steps necessary to put it into effect.

1. Announce to the pupils early in the semester the full plan, explaining that at the beginning of the subsequent semester, pupils will be tentatively divided into a supervised study platoon "A" and a self-directed study platoon "B," using as a basis for such division: the scholarship records of past semesters; the record of the current semester; intelligence test records, achievement records and health status and an evidence of reliability, initiative and dependability. Explain that this grouping is subject to change. The purpose of this announcement is to give a fair warning to the pupils as well as time to explain the operation of the plan. It will also give time for pupils to show what they really can do when they have the incentive offered by the "B" platoon.

2. Build the usual supervised study program for the pupils who are tentatively placed in the "A" platoon.

3. Build a program with periods one-half the length of the supervised periods for the number of pupils who are tentatively placed in the "B" platoon. If "A" platoon periods are seventy-five minutes in the clear, "B" platoon periods can be thirty-five minutes in the clear. This may seem short but it should be noticed that this platoon is composed of a highly motivated group and that the method of teaching should be individualized instruction. Moreover, periods in some subjects for this platoon are of "A" platoon period length.

TABLE I—A TYPICAL PROGRAM UNDER THE PLATOON PLAN

"A" Platoon		*"B" Platoon*	
Period	Hour	Period	Hour
1	8:15-9:30	1	8:15-8:50
		2	8:55-9:30
2	9:30-10:50	3	9:35-10:10
		4	10:15-10:50
3	10:55-12:10	5	10:55 11:30
Lunch	12:10-12:45	Lunch	11:30-12:10
		6	12:10-12:45
		7	12:50-1:25
4	12:50-2:05	8	1:30-2:05
		9	2:10-2:45
5	2:10-3:25	10	2:50-3:25

The exact number of minutes a day spent in class is obviously a poor measure when it is recalled that nonpreparation subjects, such as typewriting, are now commonly credited minute for minute with mathematics, English and history in which the average pupil spends considerable time in preparation out of class, even upon a supervised study period plan. The North Central Association credit is variously interpreted even by the association itself.

4. Register "A" platoon pupils in five subjects, including at least one nonpreparation subject, such as physical training, shop work or a gymnasium activity. This would mean a maximum of four preparation subjects to be carried at one time, probably a full load for most of these pupils. This day may seem long, but it should be remembered that it includes at least one period of shop, gymnasium or some other activity subject, and that when his class day is over, the pupil has also done all his studying. High school pupils who still need supervised study should not be permitted unsupervised study.

5. Register "B" platoon pupils in not more than five subjects with the following restrictions and understandings: More or less than five subjects are to be carried by special arrangement only; all laboratory or shop subjects, nonpreparation subjects and physical education are to be full length "A" platoon periods; no program is to be less than seven "B" platoon periods in length. Register the pupil for library study or for an extra subject if necessary, to complete a daily program of this length.

The "B" platoon plan is not a scheme by which pupils can finish a day of school in two hours in the morning. Some subjects must have an "A" platoon period. In order that pupils will not shun these in favor of subjects on the "B" platoon schedule, the minimum day is set at a point long enough to make it no penalty to carry a science or other "A" platoon subject. A typical daily program under this plan would vary with the length of the supervised study period. Assuming this to be seventy-five minutes the schedule would be as is shown in Table I.

This daily program permits some "B" platoon pupils to finish their school day as early as 1:25 p.m. This will provide for part-time pupils, cooperative plan pupils and also for that increasing number of pupils whose continuance in school depends upon their part-time positions.

TABLE II—SUGGESTED COMBINATION OF CLASSES FOR A TEACHING DAY

First type,	6 "A" platoon classes	Musical organizations—play coaches, etc. Physical training and shop only, where one period of activity comes after close of regular day.
Second type,	5 "A" platoon classes	regular class work mostly nonpreparation
Third type,	4 "A" platoon classes	plus 1 "B" platoon class.
Fourth type,	3 "A" platoon classes	plus 3 "B" platoon classes.
Fifth type,	2 "A" platoon classes	plus 4 "B" platoon classes.
Sixth type,	1 "A" platoon class	plus 5 "B" platoon classes.
Seventh type,	0 "A" platoon classes	plus 7 "B" platoon classes.

6. Decide (arbitrarily at first) that a standard teaching day consists of any one of the combinations of classes shown in Table II. Modify this decision for subsequent semesters as experience with the plan dictates.

The standard teacher's day has been variously determined as pupils per day, class per day and pupil hours per day. The 140 pupils per day standard has been sunk by the shell fire of large class size efficiency. The five classes a day standard is another arbitrarily conceived idea. The pupil hours per day standard is better but it should consider the type of pupil and the nature of the subjects taught. A combination of (a) type of pupils, (b) number of pupils, (c) number of classes and (d) number of minutes used daily would probably be a fair standard if it were objectively determined. In place of this objective standard, we make the foregoing proposal subject to modification through experience. The schedule here set forth makes a day's teaching consist of from five to seven classes according to length of time consumed, the type of pupil taught and the subjects taught. As such it means an economical program as compared with the typical five-class daily program found in so many schools.

7. Assign classes to the teachers needed to teach the two platoons, with most of the teachers having programs of the third, fourth or fifth types, according to Table II. They will thus teach some classes in both platoons. Some teachers would prefer and would excel on "B" platoon work. This is balanced by another group equally proficient with the "A" platoon pupils. The former group has fewer classes but more minutes of contact with pupils, the latter the reverse.

Many teachers, however, can teach either group equally well and have no strong preference. They could have fourth or fifth type programs. It would probably be unwise not to have teachers with such combination programs.

8. Assign a wing or floor as largely as possible to the "B" platoon, thus reducing travel interruption to the minimum. The necessity of making this adaptation would depend largely upon the arrangement of the building. It means that some teachers would move from room to room occasionally as do instructors in colleges. If this is undesirable, in a well planned building the room assignments could doubtless remain as they are without the travel interruption being noticeable.

Classification Should Not Be Permanent

9. Provide a report by which the work of pupils in both platoons could be checked and a transfer from "A" to "B" platoon or vice versa be made at any time. No classification of a pupil should ever be permanent. Some provision for check up, follow up and subsequent adjustment is an essential feature of all good personnel schemes. Without such a provision classification becomes stratification. The incentive of self-direction in use of time, in daily program of study and in leisure would prove constant in most cases for "B" platoon pupils. To provide, however, for those who failed to make good, reclassification should be planned for. So also with those pupils in the "A" platoon, who after a semester or two of shirking their studies suddenly decide to get to work. Hope of reward by transfer to the "B" platoon should always be present.

Advantages of the Platoon Plan

The proposal outlined in the foregoing paragraphs points out ways to overcome three common disadvantages of the usual supervised study program: It assumes that some pupils do know how to study and gives them opportunity to do so; as planned in this article, it can reduce the cost of instruction 15 per cent, or more if desired, or it can be operated at the same cost as the present program by assigning to each teacher the same number of periods as are now assigned; this plan does not make good students dependent on the teacher; it takes from them the opportunity to fall into time-killing habits of study and it offers an incentive for the display of initiative and self-reliance in study and an opportunity for self-direction in the use of time and the planning of school work. Moreover, it is a practical plan that any principal can put into operation in an adequately housed high school large enough to provide for ability grouping.

Harmonizing School Architecture With the Landscape Design

When is the time to introduce landscape design into school plan problems?

Before the school site is purchased, says H. O. Whittemore, assistant professor of landscape design, University of Michigan, in an article in the *Michigan Education Journal.*

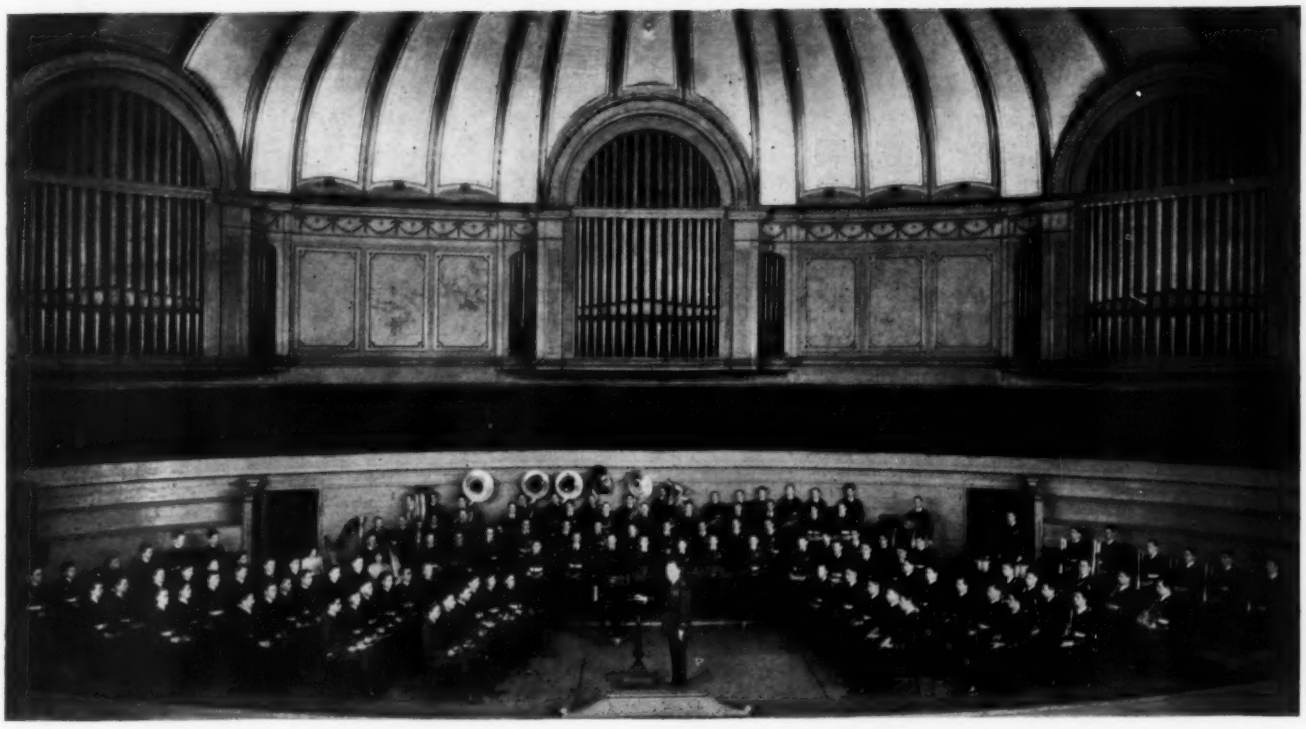
Professor Whittemore discussed the landscaping of school grounds from both the practical and the esthetic angles. Landscape design is subject to two major influences, he says—physical activity and human intelligence. The first may be called dynamic and the second, static.

The dynamic factors are particularly insistent, he points out, and the landscape designer must realize that the wear and tear is terrific. Activities that must be planned for in the landscaping are: free play, physical education, organized games, swimming pools, school gardens, outdoor theaters, outdoor waiting room, the flag ceremony, entrance and exit, service conveniences, utilities and drainage.

Professor Whittemore discusses the following static factors: architecture, conservation of the essential character of the site, the apparent fitness of all details to their purpose and the creation of new beauty by landscape gardening.

The architecture of the building is chiefly the responsibility of the architect, he points out, but the landscape designed is able to offer many suggestions. There are, Professor Whittemore says, four major types of school building sites—level areas without trees; level areas with large trees; rolling or sloping areas without trees; rolling ground with large trees.

For these sites, there is a choice of three major styles of architecture: the Colonial Classic; the Collegiate Gothic and the Cubical Massive or Modernistic, omitting the Parochial Romanesque, the Hispano Moorish and the Indian pueblo of the Southwest. On the treeless level site and on irregular sloping sites with or without trees the Collegiate Gothic seems most fitting. The Colonial Classic belongs to the level or gently rolling site with large trees. If there are no large trees already, they must be moved in and the price added to the building cost. The modern Cubical Massive belongs to the rough sloping site without native trees; in fact, that type of architecture seems out of harmony with native vegetation. Trees of the more exotic type, such as Lombardy poplar and weeping willow, associate best with such structures which should rise from banks of rich contrasting foliage and slopes covered with shrubs.



Music as a Cultural Influence and as a Character Builder

By MILDRED JOCLYN GERRY, Chicago

EDUCATORS worthy of the name have always recognized the marvelous potential energies of boys and girls. But the application of these potentialities has been confined largely to scientific branches and an intensive physical training. Our schools are preeminent in making athletics a definite part of the school work but until recently little or no attention was paid to its cultural side.

Music is as essential to a liberal education as is athletics, and to-day, especially in the larger cities, a worthy effort is being made to bring music into the school as an integral part of the curriculum. As a result children are being awakened to a consciousness of the cultural advantages and the exaltation of music. Young instrumentalists are being trained in the performance of symphonic music at an age when impressions are deep and lasting, before their illusions and romantic ideals are shattered by the brisk winds of experience.

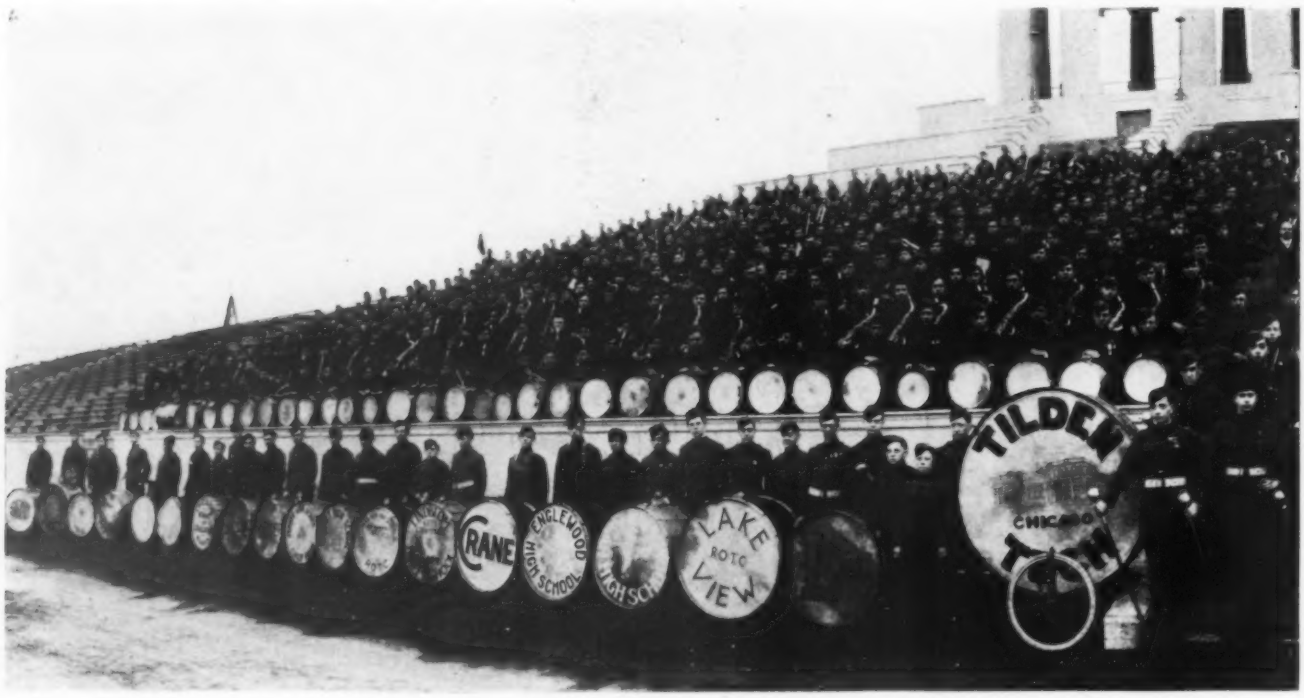
The effect of music on the adolescent mind is far-reaching. As a character builder its importance cannot be overestimated. The abilty to understand music encourages association with a higher order of minds. It develops finer senses, arouses deep emotions and from a dead knowledge of cold facts builds a vital, living thing.

The band of the Nicholas Senn High School is illustrated at the top of the page; the lower picture shows the Harrison High School band, both of Chicago.

A cultural background is a great asset. With the key to culture, the treasure vaults of the world are opened. Music is a part of the mechanism that fashions the key. Science is, of course, a field for culture, not the facts of science, perhaps, but the interpretation of the facts by ever questioning minds seeking the whys and wherefores of the universe. Mathematics, for instance, is generally conceded to be a subject indispensable to the business man. As a prelude to a satisfying existence, a knowledge of music is just as indispensable.

Because music is becoming a definite part of the school work it does not necessarily follow that the future generation will be one composed of Mozarts, Paderewskis, Stocks, or Sousas. But it does mean that it will be a generation capable of listening to and understanding good music and of reading into it something more than tones and melodies. To read books written by the finest minds of the world requires a knowledge of many languages. Otherwise, we must be content with translations. Music is a universal language. We can all understand Grieg or Bach, Liszt or Wagner, Mascagni or Massenet, provided we have learned the art of listening. Is it not logical then that a person should acquire this sensitiveness in the schoolroom during the formative period of his life?

William Lyon Phelps, professor of English literature, Yale University, says, "I believe that listening to great music is one of the most important, yes, one of the most essential occupations for the average man." Looking back over the pages of history we find that music has had a prominent place in the lives of some of our greatest men. George Washington, for example, is known as a man who loved music, especially the dreamy, romantic strains of the waltz. And nothing in his early life brought out his manly qualities as did music. Abraham Lincoln had no knowledge of music except a sensitiveness to it acquired by listening to his mother's crooning melodies. Since she could neither read nor write, she could give her son little but a song. Little but a song! How much that "little" was after all, for that song, according to his own admission, stirred something within Lincoln that inspired the achievements of his later life.

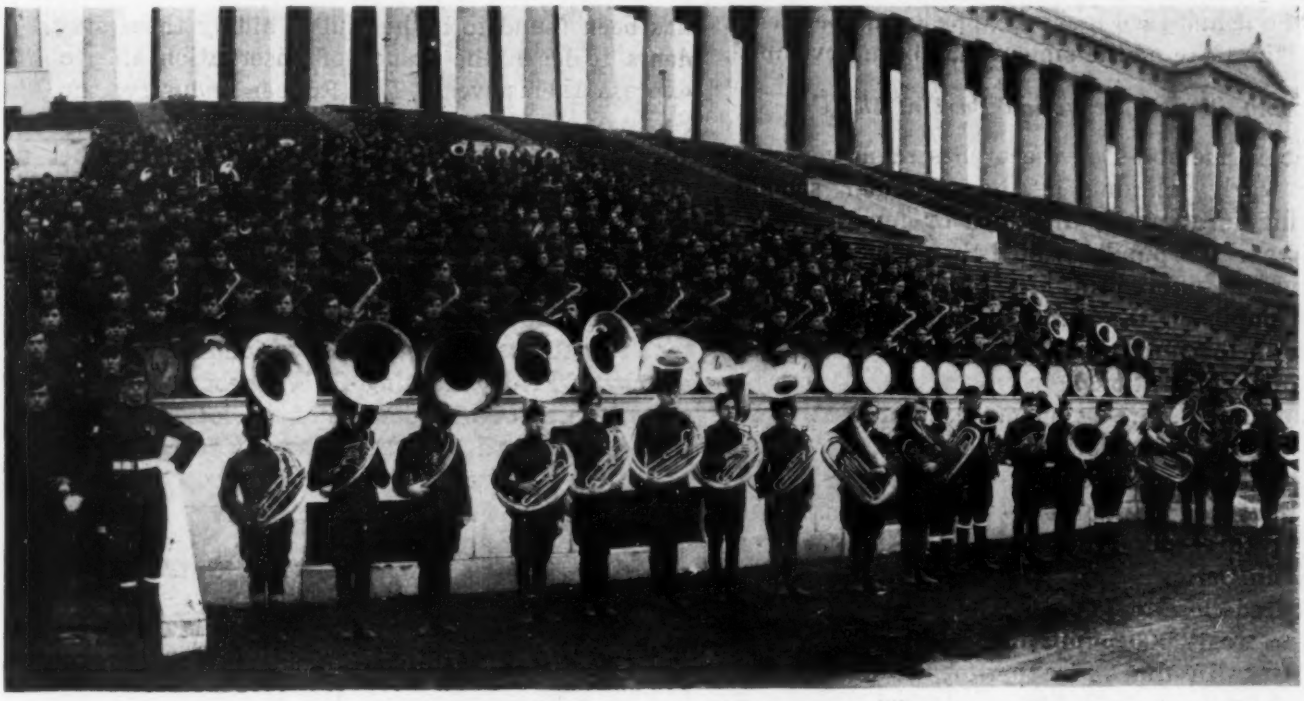


This splendid group of young musicians who are massed in the city stadium for a in Chicago schoolboys and that an effort has been

Coming to the present, we find an imposing list of business men who find mental relaxation in music. The strain of business is lessened for many who find keen enjoyment in their ability to play some instrument while others find diversion in listening to music. Many music lovers who are rich are happy in making symphony concerts and grand opera possible for the masses. In this latter group we have such men as Otto Kahn, the financier, sponsor for the Metropolitan Opera and Samuel Insull, who makes the Civic Opera possible for Chicago. Both of these men recognize the influence of music on the community and in each instance they have made grand opera as much of a business as their banking and utility interests.

George B. Cortelyou, a member of President

Roosevelt's cabinet and now head of a large New York utility company, is an indefatigable worker who has not had a vacation for twenty years. His only recreation is music and he is as versed in this art as in utility technique. He can discover a poor second fiddle as quickly as he can detect a rising expense ratio. Rupert Hughes, one of the popular of modern novelists, is proud of the fact that music is his hobby. Owen Wister, another well known writer, is a musician of note, having studied in this country and abroad. Both of these celebrities attribute their success in writing to their knowledge of music, a knowledge that has enabled them to see the beauty that is present in the world about them and then to write about it.



band contest bears witness to the fact that a genuine love of music has been instilled made to develop a cultural background for them.

William J. Bogan, superintendent of schools, Chicago, recognizes the importance of getting young persons to like good music. As a result of his efforts along this line Chicago has splendid school bands, orchestras and choral societies. "Knowledge and appreciation of music should be outgrowths of every type of education," says Mr. Bogan, "and some degree of skill in music should be among the possibilities of all pupils. No subject in the curriculum touches life at more points; no subject has a greater appeal to the esthetic or the practical interests of individuals or nations. Until recent times the people believed that skill in music was a gift from the gods, but we know now that this gift will be conferred upon all who seek it sincerely in the schools. Modern methods of teaching have eliminated all the terrors and some of the drudgery that formerly prevented children from undertaking the study of music with the joy they found in other subjects. The cafeteria type of menu in music instruction gives every pupil an opportunity to satisfy his tastes. 'Provide for individual differences' is a slogan that has worked wonders in music classes."

Music in the Chicago schools was first given serious attention some thirteen years ago when Mr. Bogan, who was then superintendent of Lane Technical High School, placed Maj. Frank Lee Beals, commander of the R. O. T. C. units, in charge of band music in the schools. At that time there was just one school band. To-day there are twenty-one senior and eighteen junior high school bands, each with its own director.

Outstanding among these bands is that of the Nicholas Senn High School, under the direction of Capt. Albert R. Gish. This band holds two city and two national championships and one state championship. Captain Gish started with these boys in 1924 and at that time he had little to work with. The school had had a band master only twice a week for forty-minute periods. The instruments were cheap in quality and in bad condition showing unmistakable signs of careless use. To-day, due to Major Beals' extension program, Captain Gish works with an average of 250 boys all day, and the instruments, some of them the property of the boys and some the property of the school, are the best that can be bought.

Among the orchestras, that of Lane Technical High School is outstanding in that it has held the

city championship for seven years, first under the direction of Hobart H. Sommers, then under that of Oscar Anderson. Henry Sopkin is now the director and, judging from the favorable reports from music critics at recent public performances, the championship standard will be maintained. It is particularly interesting to know that two members of this orchestra are now playing with the Portland Symphony Orchestra.

Nicholas Senn High School also leads in choral work with its a cappella chorus of 425 voices. The choristers are under the direction of Noble Cain and sing all numbers unaccompanied and from memory. This choir had a small beginning in an ordinary glee club of about sixty voices. By the use of one and then more a cappella numbers each year, the taste of the singers has been developed.

Making Piano Instruction Part of the Course

Future members of the orchestra now receive their early training in the grammar schools, starting in at about the third or fourth grades. Last year 723 pupils availed themselves of violin instruction offered in fifty-three schools, while 2,653 pupils in the senior high schools and 813 pupils in the junior high schools received instruction in orchestrations.

Experiments are being made at present to determine the practicality of making piano classes a part of the school course. Three inaugural centers have been established with teachers representing three different systems. This work was begun in October, 1928, and the first year classes numbered close to 7,000. At the end of last year there were 12,000 pupils in 680 classes with 400 teachers. In the two experimental years 3,600 pupils have been sufficiently interested to take private lessons.

Transposition work starts immediately with these piano classes and doubtless many mothers who retain painful memories of the days when they studied piano and struggled with those bugbears, "tonics," and "dominant sevenths," are today wide eyed with amazement as they hear their children use these terms easily and familiarly. In addition to all of this, music instruction has become a part of the regularly organized summer school at Camp Roosevelt, the official camp for boys maintained by the Chicago Board of Education. According to Major Beals, the musical instruction at the camp will be broadened this year to include instruction in stringed instruments.

There is no doubt that a genuine love for music is being instilled in the school children of Chicago and that a sincere effort is being made to develop a cultural background that will serve them as a standard for the fine art of living.

Teaching the Deaf by Means of Motion Pictures

"We find that the deaf enjoy motion pictures, and profit greatly if the films are well chosen. We make use of them in the study of geography, history and, to a certain extent, they are the basis of work in composition," Dr. O. M. Pittenger, superintendent, Indiana State School for the Deaf, said recently.

The films, sent weekly to that school from the bureau of visual instruction of Indiana University, include pictures that are effective in teaching those who can neither speak nor hear about general subjects offered in the school work. This has been found to be helpful in aiding these students to learn the values of observation and to express themselves. The Rubber Industry, the Story of the Telephone, Samoa and Japan, Honey Bee and Early Pages of History are among the pictures sent to the school for the deaf.

"For several years we have been enrolled for film service from Indiana University and have been well pleased with the results which we have obtained," Doctor Pittenger said. "It is our custom to get one topic a week which we show in our chapel Friday morning. On Wednesday morning we get a news reel from one of the local agencies and usually Sunday night we have a full program of motion pictures."

School Transportation Bill Amounts to $40,000,000 a Year

The forty-eight states are spending more than $40,000,000 annually for the transportation of pupils to public schools, Timon Covert, associate specialist in school finance, Office of Education, stated recently.

In 1928, the most recent period for which a report has been compiled, 1,250,574 pupils in thirty-six states were afforded transportation facilities compared with 1,111,553 in 1926. During the two-year period, he explained, the states increased expenditures over $5,000,000 for this additional educational service. The total cost in 1926 for forty-five states amounted to $35,604,-971. Over a dozen states spend annually over a million dollars each for transporting pupils to school. Transportation, he stated, is largely confined to the rural areas. A statistical study of over half of the states discloses that horse-drawn vehicles for this purpose are steadily receding in favor of motor propelled busses. In 1928 there were 42,768 motor vehicles, with only 5,961 horse-drawn carriages in over half of the states.

Teaching Pupils to Correct Their Physical Defects

The health course at the Central Junior High School, Saginaw, Mich., trains pupils in right habits of living and helps them to solve their orthopedic problems

By N. W. CHAFFEE, Principal, Central Junior High School, Saginaw, Mich.

"THIS is an age of rapid progress, and scientific principles are being applied to every phase of life. Educational methods have felt the impact of scientific technique and are being modified and redirected thereby. This is also an age in which the individual bulks large. He is of all things the most interesting and significant. The basic idea of education is the development of a healthy mind and body in each individual. Progressive educators recognize the larger economy of instruction and training during that period of life when minds and bodies are most plastic and therefore easily shaped.

"When spines become curved, chests flatten and abdomens protrude, there is a consequent derangement in the position of the internal organs that is finally manifest in distressing ailments. A better understanding of the necessity for correct posture and some means of individual achievement are needed. To this end we have worked out in detail and added to our curriculum a course of corrective instruction which aims at the prevention and correction of those ailments that are due to poor posture and underdeveloped heart muscles. Special emphasis is given to the analysis of defective feet and to restoring weakened arches to normal. The particular object of the course is to bring every boy and girl face to face with his or her own specific orthopedic problem."

How the Course Is Planned

So reads the foreword of the health course of study of the Central Junior High School, Saginaw, Mich. The forty-minute period is doubled for shop instruction and health work. Three of these double periods a week are devoted to shop instruction and two to health work. There are two men and two women instructors. These teachers began work at the Central Junior High School as coaches and gymnastics instructors.

The ninety minutes in each of these periods are divided to admit a diversity of activities. The first twenty minutes of the period are used for roll call and free play supervised by one instructor. Let us call this instructor "X." The next fifteen minutes are used by "X" to supervise, since pupils conduct these drills. The next fifteen minutes are used by "X" to supervise shower baths. This ensures all pupils good baths at least twice a week.

Forty minutes of the period are left. Following a previous orthopedic examination by the instructor or health examiner, the class is divided into sections. Approximately one-half of the class that is found to be in need of individual corrective work remains in the gym with instructor "Y," while the second section accompanies "X" to an adjoining classroom for a study of practical health habits. Pupils who do not need either type of work are excused to go to a study hall for work upon other lessons.

Coordinating the Work

Instructor "Y" divides the corrective group into squads according to the defects that need the most attention. These pupils, under previously instructed pupil leaders, go through formal corrective exercises. Definitely worked out exercises covering general posture, round back, hollow back, lateral curvature, cardiac cases and flat feet are put into operation as a ten-ring circus—all at one time. Here may be seen a group reducing flesh, there a group developing particular muscles, and somewhere else a group doing special exercises at the command of one of their own number. At stated periods tests are given and records are kept to show the improvement.

Meanwhile instructor "Y" is busy with his "health habit" section. Strangers passing by the open door of the room have now and then stopped to ask, "What is going on in here?" "Y" may have been caught with his class in a tooth brushing drill, a nail filing drill, a hair combing drill, a neck and ears inspection or even a testimonial meeting as to what bad habits of eating the pupils had been able to avoid that day. The parents are giving splendid cooperation in this work.

Variables in Comparative Public School Cost Accounting*

The procedures that are used in industry cannot be carried in their entirety into the field of education—the product of education is not *a dividend in money*

By FRED FROSTIC, Superintendent of Schools, Wyandotte, Mich., and PHILIP LOVEJOY, Assistant Superintendent of Schools, Hamtramck, Mich.

THE efficiency of the public school is constantly subject to the appraisal of school executives, administrative officers, teachers, pupils, boards of education and the general public. If the schools of the nation are to serve their purpose as institutions of democracy such appraisal is necessary and desirable. To be effective, however, such appraisal should be continuous and should be based upon carefully determined evidence and methods of procedure. The factors used in comparisons must first be comparable. There must also be a clear understanding of the needs and of the objectives of public school education. A definite technique of appraisal must be established to fit the various levels upon which such appraisal is made.

Forty years ago the percentage of attendance was accepted as evidence of the efficiency of a school system. It was assumed that if children could be persuaded to go to school and could be kept there, the methods of the educational process could be relied upon to produce the results desired. Therefore, the cold statement of a high attendance percentage was generally accepted as indisputable evidence of efficiency.

Measuring Efficiency by Comparative Costs

Within the past few years another method of measuring efficiency has been quite widely accepted—that of comparative costs. This method arose with the modern cost accounting systems set up in industry and was patterned to a large degree after this form of procedure. It was assumed that the situations in schools and industry were directly comparable. The analogy between educational institutions and industry, however, is only partially true. A careful study of the situation shows that the same procedures employed in industry cannot be carried over into the educational field *in toto*. In the factory, money costs in the form of labor, raw materials, interest on investment and overhead are put into an enterprise. The product coming back to the investor is money (dividends). The efficiency of the organization is measured in terms of a product which is expressed in the same terms as the costs (money).

In education we invest money, but we take out something vastly different. The product of education is character, personality, skills and the abiding changes wrought in the child. The product of education is not a dividend in money.

Determining Educational Costs

It seems evident, therefore, that any adequate means of appraisal in education must be based upon a procedure which will take into account both the cost of education and the educational product. There are three recognized means of determining educational costs:

1. On the basis of immediate or raw costs. These costs "represent the immediate cash outlay for current expense, improvements and capital outlay expressed in terms of money expenditures or in units of such expenditures." Such costs do not consider outlay in relation to ultimate results.

2. Costs in terms of achievements as measured by objective tests. This method of determining costs is related to the immediate results of education.

3. Costs in relation to the ultimate results to the individual and to society. These results are expressed in terms of character, personality, vision, self-appraisal, self-direction, self-control and cooperation.

It is the purpose of this report to indicate the futility of making any satisfactory appraisal of school systems on the basis of raw cost comparisons, without regard to what is "taken out" in the way of results. It is further the purpose of this paper to draw attention to the necessity of studying the results of the educational process, both immediate and ultimate, in terms of cost expenditures. The ever mounting demands for money in school districts make it imperative that

*Report presented before the superintendents' and school board section, Michigan Education Association.

school executives themselves devote considerable time and energy to a complete analysis of the costs within their own system in the interest of achieving all the economy possible.

School men themselves realize that they must take the lead in this important matter. This report attempts to furnish information which will assist in eliminating the numerous variables involved and therefore make possible a clearer understanding of actual costs.

Furthermore this report should stimulate educational research to make available the techniques for appraisal of the results of education.

Suppose that Mr. A inquires of Mr. B how much it costs him to operate his car per year and receives an estimate of $400. "What!" Mr. A exclaims, "you are paying too much. My car expenses cost me only $225." "What kind of a car do you drive?" counters Mr. B. "What distance do you travel? What type of roads do you travel on? How old is your car? What kind of service and maintenance do you provide for it? What kind of driving comfort do you demand?" It is evident that no adequate comparison can be made of such costs without attention to the variables which enter into such comparisons and without a measure of the results in terms of the service rendered.

Raw cost comparisons such as have been compiled and presented in the past on the basis of tax rates and per capita costs assume equal valuation, equal needs, equal efficiency, equal personnel, equal service and equal products. They assume that "we are all doing very much the same job" although measured results indicate a range of at least 500 per cent in immediate educational results between systems on specific items.

Why All Variables Must Be Considered

It is a fundamental law of scientific procedure that in any sound appraisal the investigator must take into account the possible variables entering into the problems and reduce comparison as far as possible to the law of the single variable if the conclusions are to have validity. The following statements of variables are not presumed to be exhaustive. A study of these variables will assist administrators, board of education members and taxpayers to interpret more clearly school costs within their own schools. It is further expected that it will contribute toward the better understanding of the variables involved in intercommunity comparisons.

Variable No. 1: The geographical size of a school district is the first variable in intercommunity comparison.

Given two districts[1] with a school attendance of 10,000 each: If the area of one district is ten square miles, while the area of the second is but two square miles, it will be possible in the latter case to erect fewer but larger buildings. This in turn will affect operation and maintenance costs as well as instructional costs.

Certain Variables Explained

Variable No. 2: The number of people to be served by a school district is a decided factor in determining comparative costs.

One community may be compact and contain 20,000 children while another may be likewise compact and contain but 12,000 children. The selection of the two districts because they are of equal area and approximately the same population will not furnish equitable comparative costs unless the variable of numbers is considered. Other factors being equal, the more pupils there are in a given area the less is the per capita cost.

Variable No. 3: A distribution of children by ages is a dominant variable in educational services.

Given two school districts with approximately the same number on the school census: One of these communities might be of the "mushroom" growth type with a large number of recently married residents. In this case the children would be predominantly young and would be in need of considerable educational facilities in the lower grades. A second community might have been long established and have its school population fairly well distributed by ages. This would merely mean that more children on the school census would be between the ages of sixteen and twenty than in the first community. The educational needs and costs would vary greatly from those of the first district.

Variable No. 4: The nationality background of the school population is a factor in determining the type of educational service needed.

If a community is composed of thirty or forty nationalities in the first and second generation, its educational problem is entirely different from that of a community having eight or ten nationalities in the third and fourth generation. In the first case there would be far greater demands for Americanization classes than would appear in the second. Furthermore in one community there might be a greater urge to secure more citizenship training than in a second community.

Variable No. 5: The percentage of pupils served in public and in nonpublic schools will vary budget school costs.

[1] Note: Where "district" is used it refers to the area served by a specific board of education and is mutually exclusive of all other government costs than those of education.

If two school districts have the same number on the school census and if only 50 per cent of the pupils in one community attended the public schools while in the second community 80 per cent attended the public schools, other things being equal, the per capita costs on the basis of population would show marked variations.

Variable No. 6: In any intercommunity comparison, the index of purchasing power must be ascertained for each community involved.

In any intercommunity comparison the value of the dollar is of prime importance. The United States Government figures on the index of prices give a clue at once how to eliminate this variable. For example, the Bureau of Labor Statistics, Bulletin No. 495, states that sirloin steak sold in Detroit on December 15, 1928, for 50.1 cents a pound. At the same time the price in Houston, Texas, was 37.5 cents a pound while in Los Angeles it was 45.5 cents a pound. In Manchester, N. H., it was 62.4 cents a pound; in Portland, Me., it was 67.8 cents a pound and in Providence, R. I., it was 80.4 cents a pound.

Variable No. 7: The ratio of assessed valuation to "true valuation" may vary to such an extent between two districts as to make comparison impractical unless the exact ratios of valuation are known.

This variable is a source of many false conclusions on tax rates. Other factors remaining constant, it is evident that the nearer assessed valuation is to true valuation, the lower will be the tax rate. The raising of valuations is a trick sometimes employed to lower the rate ("lower taxes") although the actual total amount of money raised is often larger. The ratio of assessed to "true valuation" varies materially between districts.

Comparing School Tax Rates

Variable No. 7A: The per capita wealth is a prominent variable in interdistrict comparison.

Two districts might have approximately the same school census. In one district the amount of valuation might be much larger than that of the second district. Unless the tax rates were in corresponding proportions one district would have much more money per capita with which to conduct its schools. In explanation of this, the following example may be quoted:

District F and District W have approximately the same school census. District F has a valuation of approximately $218,000,000 and a tax rate of $9.365 while District W has a valuation of but $48,000,000 and a tax rate of $11.88. Therefore District F has approximately three and a half times as much money per capita of school census as District W.[1] Hence no comparison can be made of the school tax rates in these districts without taking the amount of valuation into consideration.

Variable No. 8: The age of a city has an important bearing on the type and amount of expenditures necessary to meet educational needs. This variable seriously affects comparisons of raw costs.

The young, rapidly growing district has problems in administrative and instructional organization, adjustment of loads, housing problems, supply distributions and site acquisitions which usually throw costs out of proportion to the city whose condition is static or nearly so. During the transitional stage of development the needs of the young community are not so clearly defined and understood, because they shift rapidly. Budgets are often exceeded, bond indebtedness is usually high with consequent high interest charges. Errors are made in educational designing because the true estimation of growth and development is difficult.

Why Some Schools Show High Operating Costs

Variable No. 9: The costs of equal education service varies with the size of the system.

Other things being equal, unit costs decrease as systems increase in size. Teaching, administrative and operating loads are more easily distributed among personnel, the expensive small group and surplus service are eliminated.

Variable No. 10: Types of heating systems vary both in kind and in efficiency within the same district and between districts. Direct comparison of heating costs without regard to this variable is impractical.

The efficiency of certain heating systems varies as much as 300 per cent within the same school system due to the type of the system and efficiency of its operation. No adequate comparison of school operating costs can be made unless the effect of these variables is clearly understood.

Variable No. 11: Methods used in firing cause wide variations in operating costs.

Stoker firing on boilers is estimated to be from 15 to 50 per cent more efficient than hand firing. In the same manner hand firing may vary between various personnel as much as 25 per cent. Poor firing methods therefore greatly increase the cost of operation in certain buildings and in whole school systems.

Variable No. 12: The procedure employed in the selection and purchase of fuel produces wide

[1] Note: If the wealth of these two districts were interchanged, other things remaining as at present, District F would have a tax rate of $42.55 while that of District W would be $2.59.

variations in the efficiency of plant operation.

Wide methods of determining what coal shall be purchased are employed by board of education executives. These vary all the way from the acceptance of the lowest price bid from any dealer on any kind of coal, to purchase according to definite standards. These include analysis, quality best suited for the boilers in use as determined by test and delivery which ensures weight. Many schools are using coal entirely unsuited to the heating plant. Such procedure directly affects tax rates and directly as well as indirectly affects instructional efficiency.

Variable No. 13: The use or absence of automatic thermostatic and damper controls directly affects fuel costs.

Some school systems use no automatic thermostatic or damper controls but leave the regulation of temperatures to the judgment of the engineer. Such practices lead almost invariably to irregularity in room temperatures and waste of fuel consumption. Other systems install automatic controls which keep temperatures within optimum working conditions.

Variable No. 14: The practice of charging the cost of water, light or power to the board of education in some communities and to the municipal government in others affects cost comparisons.

Some municipalities furnish schools with water, light or power without charge. Where this is done, the cost of these items appears in the city tax rate or is assumed by the departments of public works. In such cases school taxes are proportionally reduced.

Variable No. 15: The length of the school day, orientation of the building and the ratio of window to floor area are important variables in cost comparisons.

The Reduced Cost of Recirculated Air

These items directly affect operating expenses. Length of day determines the number of hours heat must be supplied at a working temperature and the length of time ventilating fans need to be run. Buildings facing south have less heat losses, other things being equal, than those with north, east or west orientation. The heat received from the sun relieves the load on the heating plant during the cold season. In the same manner buildings with a low light ratio make larger demands for artificial light than those with a large window ratio.

Variable No. 16: Variation in the policy of the percentage of air recirculated makes heating costs vary over a wide range between schools and school systems.

Certain commercial firms dealing with apparatus designed to rehabilitate used air, base their argument for saving on a guarantee of 50 per cent in tonnage as a result of recirculation of air within the building. While the efficiency of rehabilitation has not been proved, the reduction in cost due to recirculation has been established beyond question. Large savings may be effected through this procedure. The influence of such procedure on health has not yet been determined.

Other Factors to Be Considered

Many school operating enginers recirculate practically all of the air in winter weather, saving both fuel and labor. Other plants use a one-way movement system by which fresh air is admitted, heated and driven directly through the rooms and out through the roof vents. The latter is an expensive type of operation and adds materially to operating costs and hence to tax rates.

Variable No. 17: The efficiency of operating and maintenance personnel affects school cost comparisons.

The efficiency of operating and maintenance personnel varies with the basis of selection, wage scale, training in service, age, habits of work and living, allotment of work units and types of supplies furnished. Ordinarily where selection is based on political, personal or other bases, except that of efficiency of service, the costs of operation and maintenance mount and the efficiency of service declines.

Variable No. 18: Age and type of building structure affect maintenance and operating costs.

The amount of labor necessary to operate and maintain buildings varies with the age and type of materials used in construction. The older type of buildings were constructed of materials upon which little experimental data were available to determine the suitability of such materials for the needs of instruction. This is particularly true to floors, walls, dadoes, windows and roofs. It is not uncommon to find floors to-day which require 500 per cent more labor to maintain them in the same condition as do certain other floors. A city with a large number of old buildings must allow larger maintenance and operating items in the budget than a city with well designed and constructed modern buildings.

Variable No. 19: The policy of maintenance followed varies between districts.

Maintenance costs vary greatly with the policy of the Board of Education. Maintenance items are usually among the first to be "lopped off" in a budget review. When this policy is followed costs mount rapidly. Where a small expenditure would be sufficient to keep building and equipment at high efficiency, if they are cared for at the

moment when loss of efficiency begins, large amounts must be spent later to repair accumulated damages. Again a policy of maintenance may require the use of initially cheap materials. This policy is usually expensive in the long run and adds to generals costs.

For example, one district used a good grade of paint on its corridor dadoes. This material required cleaning weekly and repainting in most places every year or two. Five years ago lacquer was employed for this purpose. The dadoes are still in excellent condition. Cleaning has been reduced to a five-month period and maintenance and operating costs have been reduced 80 per cent.

Variable No. 20: The policy of school plant alteration affects school costs.

Some boards of education have well established policies for alteration of buildings to meet changing instructional and operating needs. Such policies in the long run make for instructional efficiency and often materially reduce instructional and operating costs.

Variable No. 21: The rehabilitation of obsolete school plants may effect considerable savings in school costs while an opposite policy may greatly increase school expenditures.

Many old buildings show evidence of excellent construction and although obsolete might, through rehabilitation, be made serviceable for many years to come. That this practice may save large sums of money to a district which otherwise would require replacement with new buildings is shown by the experience of one district that was confronted with the problem of an old building which was obsolete and a menace to life and health. Careful estimates on a new building showed the cost of a suitable building including architect's fees, educational planning, inspection, and equipment to be $350,000. A study of the old building showed that through proper remodeling a modern structure could be obtained at considerable saving to the district. This was effected at a total cost of $140,508 including architect's fees, educational planning, inspection and equipment. The resulting saving to the district was $209,402.

Free Texts and Their Effect on Taxes

Variable No. 22: The policy of posting various charges in the ledger will vary from district to district.

In Variable No. 21 an outlay of $140,000 was made for rehabilitating an old school building. This was charged as capital outlay, while technically it should have been listed in the maintenance appropriation of current expense. This would have served to augment the maintenance cost during that specific year and change the various percentages allotted to the eight major accounting divisions.

Variable No. 23: Policies regarding the extent of educational supplies and textbooks furnished cause variations in cost comparisons.

A wide variation is found among school systems regarding supplies for instructional purposes. Some districts furnish no free texts and a minimum of instructional supplies. Others furnish all texts free and all the instructional supplies required by the pupils. While the furnishing of all supplies and texts is directly in harmony with modern education and results in actual economy to the district as a whole, the tax rate of necessity must show the effects of this item.

Other Policies That Influence Expenditures

Variable No. 24: The policy of class size adopted by the board of education is an important variable.

The policy of class size has a marked effect upon tax rates. In actual practice classes vary all the way from two to sixty pupils. Sometimes this condition exists under a regular established policy while in others it is the result of a lack of policy. It is evident from the standpoint of cost that three classes of ten pupils cost as much as one class of thirty pupils. No positive educational evidence of an experimental character has settled the problem of size as yet. The trend of such evidence, however, is in the direction of larger groups and we may well expect to see the school of the future with groups considerably larger than those at present.

Variable No. 25: The breadth of educational service varies greatly between districts.

The policy of educational service adopted by the board of education has an important bearing on tax rates. One district may have a wide health service with visiting nurses and teachers, clinics, school physicians and dentists paid for out of the funds of the board of education. Another district may have practically all of this service, if it exists, paid for out of agencies outside of the school.

Variable No. 26: The breadth of the curriculum offered may vary between wide limits in two districts.

One district may offer the meager requirements of the core subjects in the elementary school and college entrance subjects only in the high school. Another district realizes that the public school exists for the development of all types of pupils so that they may live successfully

in a democracy and it offers a wide range of industrial subjects, vocational activities, home making, fine arts, social training and economic guidance. The expense of academic training in the first case is less than the socialized training offered in the latter. The actual costs may be compared only in terms of the changes effected in the pupils and not on the basis of raw cost comparisons.

Variable No. 27: The length of the school day and of the school year varies between communities.

The policies of boards of education vary largely with the total time given to educational service both in length of day and length of school year. Other things being equal, it is reasonable to expect that the actual effect of this service is in proportion to the time spent. Costs vary also with time. Raw cost comparisons must take into account the length of service rendered.

Variable No. 28: The extent of organization plays an important part in school costs.

The extent of organization plays an important part in school cost comparisons. Organization types vary over wide ranges. Some districts use the K-6-6 plan. Some use the K-6-3-3, the K-8-4, the 7-5, the K-6-4-4 or other combinations. Not all these plans are equally effective nor are costs equal. For instance, District B offers education to preschool, kindergarten, elementary, high school, junior college, and special schools for blind and crippled children. District A offers kindergarten, elementary and high school education. It pays tuition for junior college and special children in nearby city schools at a considerable saving in its total budget.

Types of Supervision and Salary Schedules Vary

Variable No. 29: The type of supervision used in a system affects both the quality of the product and the cost of service rendered.

The policy of supervision varies greatly in different districts. Some of these depend entirely on a group of administrative supervisors who direct instruction more or less independently of each other. In other places, supervision is recognized as a creative activity in the hands of a group of directors of instruction to develop better means of procedure and with the administrative supervision in the hands of the building principals who see that the adopted course of study is carried out. Comparison of the effectiveness of either method cannot be made on the basis of raw costs but only on the basis of the measured product.

Variable No. 30: There are several types of salary schedules in each of which the underlying philosophy is different. Furthermore the distribution of the teachers on the schedule will vary.

Some communities have a single salary schedule based on preparation, development and merit while others have separate schedules for elementary and secondary teachers. In some cases the raises are allotted on subjective appraisal and may be any one of four amounts as $50, $100, $150 or $200. In some cases raises are a matter of personal heckling. A position-automatic schedule is ordinarily more expensive and less efficient than the preparation-merit-development schedule. A second factor is the position of the staff on the schedule. Two communities may have the same type of schedule but in one the group may be just starting on the schedule while in the second the schedule may have been in operation for a period of years.

How Local Conditions May Affect Costs

Mention should be made of the fact that one community may be utilizing the Law of Wages (Moore) which is correlated with the index of purchasing power. A second community may have established arbitrarily a schedule which is entirely unsound economically, with the result that teaching efficiency and morale are greatly jeopardized.

Variable No. 31: There are varying policies of substitute service.

Some communities allow five days' sick leave with full pay and five additional days with half pay. Some allow ten days with full pay while some allow ten days with full pay and demand the teachers pay for the substitutes.

Some schools appropriate a blanket sum of money to be met by a like sum from the teachers with which group insurance is purchased for those who contribute. Costs of substitute service cannot be compared on an equitable basis until these variables are considered.

Variable No. 32: The library service policy of boards of education will not always synchronize.

Libraries may be purely instructional within the school or they may serve as instructional and public as well. Where libraries are purely instructional the salaries of the teacher-librarians may be charged to instruction or they may be classed as an auxiliary agency. One district may buy more supplies and books than another. One district may decide to use fewer expert librarians and more clerical assistance. The policy of maintenance of library books will vary the costs to a large degree.

Variable No. 33: Different communities have varying needs of pupil transportation.

The presence of orthopedic children in a community will cause a special transportation problem which will be further aggravated by numbers. The large area of a community coupled with special traffic hazards will cause a greater need of pupil transportation than a small compact area with schools well placed so as to avoid these hazards.

Variable No. 34: Local conditions will make for different policies pertaining to public lunches.

Congested industrial areas with varying economic conditions will make for different appropriations for public lunches. Some communities give milk free to elementary underweight children while others may find it necessary to furnish a complete lunch to open window or orthopedic children. In these latter cases pupils may or may not pay for a portion of the lunch.

Variable No. 35: The amount of tuition paid by a school district is a variable. It may be charged as an auxiliary agency or against instruction.

School districts not maintaining a high school must pay in Michigan $60 towards this tuition. They may pay the entire tuition bill of their residents. Other communities maintain high schools but do not operate special schools for deaf or blind owing to lack of numbers. In this case they may send their pupils to nearby metropolitan special schools. This augments their tuition and transportation. The question of junior college enters at this point. Some districts prefer to maintain their own junior colleges while others prefer to pay tuition of their high school graduates to near-by colleges. This factor will cause great variations in the amount expended for this type of education—whether as tuition or as a definite instructional cost.

Why School Plant Needs Must Be Studied

Variable No. 36: Different types of communities demand varying degrees of recreational service. Practices also vary as to whether districts, cities or both carry the cost of this service.

In some districts a recreational commission under the auspices of the city government pays the entire cost of this service, while in other districts the board of education pays one-half the cost. Naturally there will be variations in the amount and type of service provided ranging from a small sand-lot league to expensive outdoor swimming pools.

Variable No. 37: The method of determining school plant needs is a varying factor in school costs.

Some districts build school buildings on the basis of an architect's guess or estimate of its needs without regard to policy or educational plan. Such procedure is costly in the long run in actual money paid for buildings and in the indirect effects on instruction. There was, for example, the district that decided to construct a school building at a cost of $1,500,000. Plans were drawn and work was in the process of starting. On second thought, those in charge engaged an educational specialist to make a study of the plan, in terms of curricular needs. As a result $300,000 was cut from the original figure and a building suited to actual instructional needs was erected.

Debt Services and How They Differ

Variable No. 38: The size of site will vary school operation and maintenance costs.

There is no uniformity in site sizes in various districts. These vary from less than half a city block to twenty acres. It is evident that such variations in policy must be taken into account when comparison is made of school costs.

Variable No. 39: The assumption of debt service costs shows marked differences.

If a school district has financial autonomy it will probably carry educational debt service as a part of its own budget while a district having fiscal dependence will probably have such assumption carried in the regular municipal budget as a direct obligation. Of course in either case the community absorbs the entire cost but unless this fact is understood the comparison of debt service costs would be decidedly misleading.

Variable No. 40: The type of bonds used in debt service will vary school costs.

The four methods of borrowing money on bonds are straight long term, the long term (sinking fund), the serial bond and the short term note. The first method is considered obsolete while the second is in considerable favor. Money borrowed on long term notes is finally to be returned by the sinking fund built up by annual payments. The serial bond eliminates certain dangers of the sinking fund method.

Variable No. 41: Some districts have no debt service because of a pay-as-you-go policy.

When a district by reason of local growth conditions determines that it is wiser not to be encumbered by serial or long term bonds, the pay-as-you-go policy is adopted. Naturally, while the current tax rate may be higher to meet this condition, the debt service element has been eliminated. It is obvious that a study of comparative costs should be preceded by an analysis of the method of securing revenue so that a complete picture of the reason for various costs will be understood.

Variable No. 42: The type of insurance will cause marked variations in the fixed charges.

Some communities desire to be their own insurers. This naturally lowers the fixed charges costs but in case of a fire would push up their replacement costs. Some communities insure on an 80 per cent co-insurance clause; others adopt a 90 per cent clause while still others may take straight policies or do not insure at all. Some districts are constantly seeking reratings from the state inspection bureau which seems both to reduce the fire hazard and the insurance rate. Some communities may carry boiler insurance. The type of boiler will vary the kind of insurance. Furthermore some systems may insure against explosions and cracking while others insure only against explosions.

Variable No. 43: Some communities find it necessary to pay rent for additional school plant service.

Some communities find it necessary to rent portables or other facilities to house their children. This would raise the fixed charges costs but would tend to lower the capital outlay. A complete analysis should be made to determine whether it is cheaper to pay rent than to build.

Variable No. 44: Some communities find it necessary to pay a tax collection cost which augments their fixed charges costs.

In some districts the law provides that the school district shall assume a cost of collection of its revenues. These are rightfully allotted to fixed charges and serve both to increase the entire budget and the revenue.

Variable No. 45: The policy of various boards pertaining to compensation will show marked differences.

Boards of education are accountable for accidents happening to their employees. They may elect to insure against this or to carry the charges directly when the accidents occur.

Additional Causes of Varying Costs

Variable No. 46: In general control the type of organization will cause the costs to vary.

A school system may be organized on the unit, dual or multiple plan. Manifestly the cost for these will vary even if other factors have been equalized. One community may pay its school board members considerable money in salaries and have the treasurer handle most of the work while another community will have a legislative and appraisal board of education and secure the services of an accountant.

Variable No. 47: The analysis of what is charged to general control will show fluctuations in comparative costs.

If one school district charges the chief engineer or superintendent of buildings and grounds to operation and another charges him to general control there will be a variation in the percentage of budget allotted to these funds. Where should an assistant superintendent in charge of instruction be charged? Where will one charge the director of the census and child accounting?

Final Product Is of Supreme Importance

Variable No. 48: Even with a standard child accounting system within the state various communities will obtain different results.

How shall average daily attendance be ascertained? If school is closed on Armistice Day afternoon how is the average daily attendance affected? If three days are allotted to examinations what entry will the attendance department place in C. A. 10[1] for the attendance on each of the three days? Where costs are to be ascertained on A. D. A., a uniform interpretation of rules must be made by the communities involved in comparison. This is likewise true of ascertaining registration membership and number of pupil hours in instruction.

Variable No. 49: The most important variable in the entire educational process is the final product. No comparison is valid unless this factor is given due consideration.

It has been estimated by the best educational authorities that the effectiveness of instruction between different teachers may vary from zero to at least 500 per cent. Since the instruction of the child is the primary purpose of all educational expenditures, it is evident that no adequate comparisons on expenses of education can be made except on the basis of actual changes effected in the child. This item is probably the largest single variable entering into cost comparisons. It is concerned with the actual products of education, the dividends to society. Scientific procedure is rapidly being developed to measure this product. Until this is effected no adequate comparisons can be made of any kind of school costs.

The practice of executives and boards of education to justify school efficiency on the basis of low tax rates or low per capita costs alone, without regard to the service rendered, is not only reprehensible but pernicious. Such practices cannot be justified in view of the objectives of modern education. The purpose of education is to develop an integrating personality—to develop an individual so that he can live successfully in a democracy. Actual costs in education can be justified only in terms of the abiding changes effected in the child.

[1] Michigan uniform child accounting blank.

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Editorials

Health Protection for School Workers

FROM every section of the country comes the report that plans are either being laid or are now in operation for safeguarding the health of educational workers by providing free medical examination, rest rooms and hygienic classrooms. It is not intended to say that this movement has yet reached every community in every state, but it is true that at least most state educational organizations are discussing health protection and recommending to superintendents and school boards that every practicable thing be done to reduce the strain of teaching and to provide facilities for the conservation of physical and mental well-being.

Probably the most important achievement so far in safeguarding the health of teachers is the establishment of a preventorium in Virginia. A half-dozen years ago the Virginia Educational Association conducted an inquiry pertaining to the health of educational workers in the state. It was revealed that a considerable proportion of these workers neglected health because they could not afford the expense of medical examination and especially of surgical and hospital treatment. It was found that the health of teachers often became impaired when timely measures might have prevented complications and helped to maintain physical and mental vigor.

The subject was thoroughly discussed by the educational association and the idea of an institution designed to prevent the impairment of health among teachers was developed. The matter was brought to the attention of the medical college of the University of Virginia and all the members of the medical staff offered their services free to the educational workers of the state. The preventorium was established and was recently dedicated, so that now any teacher, prinicpal, superintendent or supervisor in the state may have expert medical examination and medical services if necessary without expense.

There will undoubtedly be perplexing problems connected with the preventorium but the educational leaders of the state are confident that these problems can be solved without difficulty so that educational workers will feel that they can safeguard their health by taking stock regularly of their physical status and preventing the develop-

ment of diseases that can be checked when dealt with in their early stages. The members of the medical staff of the University of Virginia have donated their services to the educational workers of the state in the belief that the teachers, the principals and the superintendents are serving the state and that by conserving their health the welfare of the state can be promoted.

Here is a movement that ought to make an appeal to the medical departments of every state institution.

Can Morals Be Taught by Negation?

STATE Superintendent Taylor of Nebraska has prepared an interesting booklet on morals to be distributed among the pupils of the high schools of his state. The state legislature has authorized the printing and distribution of the booklet. It is the hope of Mr. Taylor that boys and girls who read what is said about smoking, dancing, dishonesty and similar practices will be dissuaded from indulging in them.

Can morals be taught in this way? We do not know. Many among us believe that if a young person is warned against an evil he will avoid it; others believe just as firmly that one good way to disseminate evil is to put it before the young and condemn it. Both sides of this question have been upheld by great students of human nature from Plato to our own times. Plato urged that the young should be exposed only to wholesome sights and sounds and admonitions, while John Locke—as keen an observer of human nature as Plato—advised that young persons should become familiar with the world as they will meet it in maturity and should be warned against alluring evils. So one could line up hundreds of eminent people on Plato's side and just as many on Locke's side, and there we stand to-day.

It has apparently been shown that the depiction of misconduct in motion pictures, even though we moralize about it, serves to awaken the interest of the observer in it and the wish to try it. Superintendents, principals and teachers throughout the country, as well as members of all sorts of organizations of laymen, have protested against the display of thievery, murder, cheating, adultery and other vices in motion pictures.

Plenty of data have been secured showing apparently that waywardness in the young has been incited by waywardness depicted in motion pictures, even though the pictures may end up with a warning against the commission of the offenses that have been portrayed.

There is no denying this fact: Human nature is so constructed that anyone, especially a young person, tends to assimilate and to express in action the suggestions that play upon him. Whatever finds its way into an individual's consciousness, whether focal or marginal, constitutes an urge to action. Sometimes action may be of a negative or inhibitory character, but more often it is positive and propulsive. One can never tell for certain which way an idea presented as a warning to a young person will work out in behavior—whether it will turn him away from or incline him toward the thing that he is warned against. In view of this profound human trait, we ought probably to play up positive rather than negative suggestions in moral training. At least, when we admonish the young to forego forbidden pleasures we ought at the same time to lure them toward legitimate attractions so that their attention will be absorbed by things that are desirable and permissible and thus be kept from temptations to indulgence in unwholesome practices.

It must not be forgotten that the experiences of the race show that people have been dissuaded from evil by building into their consciousness a fear or abhorrence of it. If in training the young we could establish prejudice against smoking, stealing, lying, cheating, dancing (if this be one of the vices), it would be one way to protect them from embracing evil. A better way, however, would be to develop in them a strong, wholesome interest that would divert them from unwholesome ways.

Educational Endowments

MANY of the great fortunes of this country are being devoted to the accomplishment of good. A survey of educational foundations in this country has recently been completed, showing that a large part of the educational work for the Negro is being financed by educational foundations. Practically all research in certain fields, especially in child nature and educational method, is being maintained by the foundations. Investigation in the medical sciences is being carried on in an impressive way by these groups. American students are being aided to go into European and Oriental countries and foreign students are being brought to America in large numbers by the foundations. They constitute probably the greatest force in the world to-day for the promotion of friendliness and peace among the nations.

Occasionally educational men may be heard to say that all the work being done by the foundations is designed to promote their own selfish in-

terests. This view is absolutely erroneous in most cases. The foundations provide funds for research and for teaching and exercise no control other than to make the use of their gifts effective. How anyone can believe that the foundations have selfish ulterior motives in view in their establishment and maintenance of scholarships for study in every field of human activity and interest, and in their maintenance of research in child welfare, in education and in all the medical and natural sciences, is beyond understanding.

One would think that an educational man could see that the foundations, if they are built on corruption, are undermining their own existence because they are encouraging fearless investigation in every department of human interest and activity. They are maintaining institutions devoted to the exploration of every factor affecting human relationships. If the sources from which the foundations are deriving their funds are corrupt, then the foundations themselves cannot long endure.

Surveys made during the past two or three decades indicate conclusively that one of the impressive phenomena in the history of education is the rôle that the great American foundations are playing to-day in making investigations with a view to promoting education and child welfare, and in increasing the knowledge pertaining to health, the mastery of nature and the utilization of her forces for the advancement of human well-being.

N·S

The Child-Centered School

CRITICS of the public schools who maintain that educational work is formal and ill-adapted to the needs of the times, and that educational administrators are completely standardized and routinized ought to hear some of the addresses that are being delivered at meetings such as the one held recently at Newark, N. J., to discuss the "child-centered school."

Complainants who see no evidence of progress in public schools would be surprised should they read an address given by Supt. Frank J. Pickell of Montclair, at the Newark meeting. He goes as far as any of the radical group who are discontented with the work of the schools. The difference between Superintendent Pickell and extreme radicals is that the former is administering a system of schools while the latter are merely theorizing and he cannot immediately abandon the grade school system and go completely over to a program of individual instruction and individual freedom. But Superintendent Pickell believes that in the future it will be possible to go as far as even the most caustic critic of present day "regimented" education could wish. He said, among other things, at the Newark meeting:

"It will not be long before there will be no grades in the elementary schools. The child will no longer be forced to sit and learn reading, writing and arithmetic. He will be educated through his own particular needs and experience. No such program could be carried out with the present screwed down furniture. The ideal schoolroom should have movable chairs, just enough for all the pupils, and enough tables for about half their number, and plenty of floor space. I would have schools not only pleasing on the outside but attractive inside."

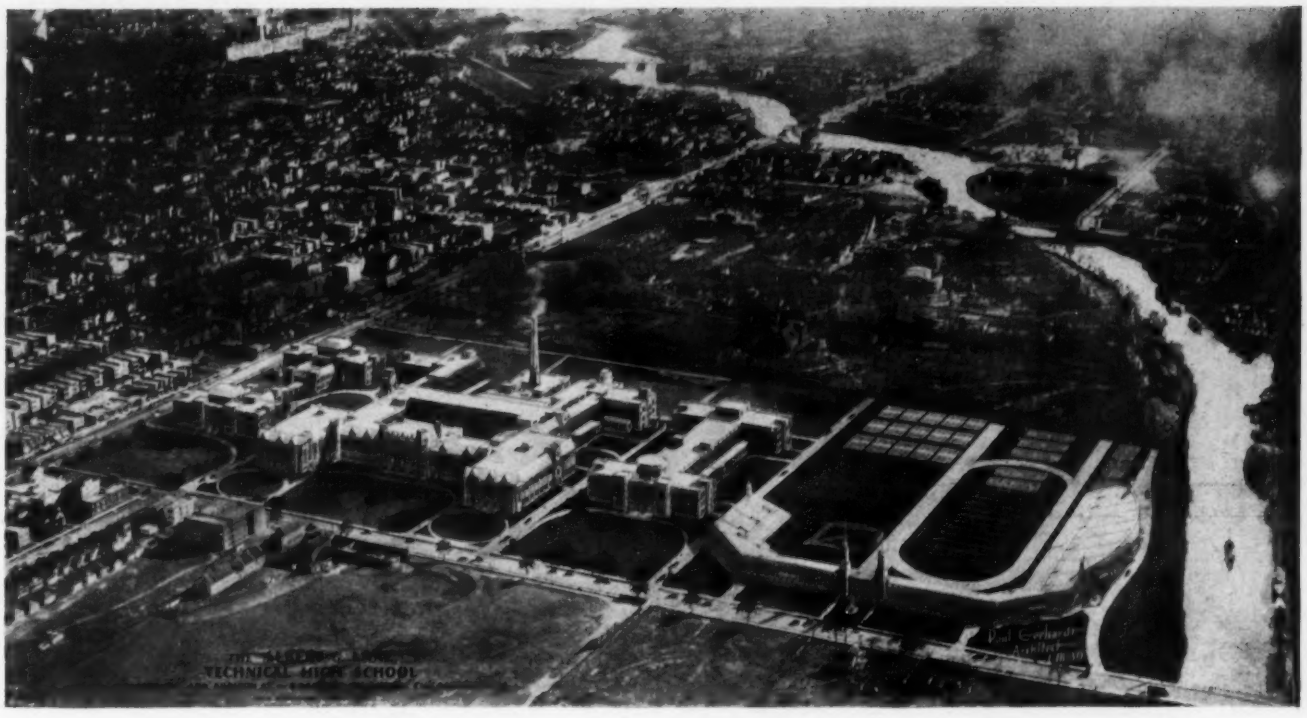
N·S

Learning to Live by Living

THERE is disquietude among educators and also among laymen regarding our plan of preventing many of our young people from coming face to face with the realities of the world until they are past twenty.

More than a million students will enter American colleges next September. A large proportion of this great throng will not have had any first-hand experience in dealing with the world as it is. These young persons have been maintained wholly by their parents and have been completely relieved of the necessity of doing much, if anything, to maintain themselves. They have been in school since they were five or six years of age, some of them dealing with book situations almost entirely. Their contacts with the real world have been principally in the way of seeking amusement, diversion and self-indulgence. They have not been compelled to use the knowledge they have gained in school to improve their welfare or to attain better adjustments to their human and physical environments.

Is it any wonder that so many students manifest little or no real interest in the opportunities presented in high school or in college? Parents are sensing the disadvantages of the situation. In a number of instances fathers have removed their sons from college before they completed their courses and have put them to work, hoping that their appreciation of the opportunities offered in college would be increased as a result of having first-hand experience with the realities of life. The time may come, and speedily too, when we will not permit students to remain continuously for sixteen years or more in school and in college without having actual contact with the industrial, social and physical world in which they live.



A School That Provides Practical Training for Industry

The new Lane Technical High School, the outgrowth of fifteen years of careful planning, will embody all that is modern in equipment for the industrial preparation of its pupils

By RALPH W. YARDLEY, Assistant Architect, Board of Education, Chicago

TWENTY-TWO years ago the Albert G. Lane Technical High School, at the corner of Sedgwick and Division Streets, Chicago, was opened to the public.

Technical high schools were a new venture in educational work, and Chicago was pioneering in its establishment of such an institution. The venture had been criticized, and although every effort had been made to have the building as modern and up-to-date as conditions at the time would permit, the work was planned with a certain degree of conservatism to offset as much as possible the criticism that was being made of technical education.

The building had been planned for 1,200 pupils. The original enrollment on the opening day far exceeded this number. The remarkable success of Lane Technical High School and the difficulty of giving satisfactory instruction in the inadequate building became more evident from year to year. About fifteen years ago William J. Bogan, now superintendent of schools of Chicago and then the principal of Lane, started the movement for a building that would be worthy of the efforts being made by those in charge of the school and that would make it possible for those attending the school to have the best educational facilities.

Various plans were worked out and abandoned. Various sites were considered and were abandoned because of the difficulty of finding one of adequate size in a suitable location. The need for better facilities became more urgent. Branches were added, the pupil membership increased and the lack of facilities became more distressing.

Lane now has a membership of over five thousand pupils, with four widely scattered branches in addition to the old building at Sedgwick and Division Streets. It is necessary to use forty-seven portables, probably the largest colony of portables in existence.

After lengthy negotiations and considerable litigation, the board of education secured a

thirty-acre site at Addison Street and Western Avenue, and the architect, Paul Gerhardt, Chicago, completed the plans for the new Lane Technical High School which is now in process of erection.

The entire group, including future buildings and the athletic field, stadium and field house, is shown in the accompanying illustration. The center group of buildings is the initial unit and is the culmination of Mr. Bogan's fifteen years of effort and personal study. The arrangement of the building and the details of all of the shops and equipment, as worked out by the architect, were developed by Mr. Bogan and his associates, who based their plans on Lane's past experience as well as on study and inspection of the various technical high schools throughout the country.

Thorough Training Is Given

It was also necessary to anticipate industrial developments as much as possible in order that the school's present standard might be maintained, since the training given is so thorough and so advanced that several of the country's largest corporations give preference to pupils trained at Lane and do not require them to undergo the entire training course required of other employees.

The group of buildings forming the central section will accommodate approximately six thousand pupils. The academic section occupies that part of the building facing Addison Street, with an auditorium seating 2,500, to the east, and a physical education suite to the west. The physical education suite includes a large and a small gymnasium and a swimming pool. The large gymnasium is arranged with seats for spectators so that it can be used for interscholastic games. The academic section is in the front part of the building between the auditorium and gymnasium, and the shop section occupies the center of the group. The original intention was to house the apprentice school, continuation school and the similar special activities in a separate building, but during the summer of 1929 it was decided that a considerable saving in cost could be effected if these facilities were incorporated in the main building, so that there would be no need of duplicating the lunch room, heating plant, gymnasiums and other facilities that are used in common. Wings were added to the main building to provide for these additional activities. The plans were redrawn and rejections that reduce the cost and improve the building were made in the revised plans.

The athletic field and buildings are not a part of the Lane School, being on ground that is adjacent to that owned by the board of education. Tentative arrangements have been made with a prominent citizen interested in Lane and its activities for the provision of the necessary funds for the purchase of this site and the construction of the athletic field and its equipment, coincident with the erection of the building by the board of education. The small buildings flanking the center group in the picture indicate the possibility of future expansion and it is not intended to erect these buildings at this time.

Some of the departments the new building will have, which will be in advance of instruction offered in other technical high schools, will be the departments for instruction in aviation, heat treating and electric welding.

The building is planned so that it can be used for community activities without interference with night school or other educational work, and the different sections are arranged so that each can be operated separately.

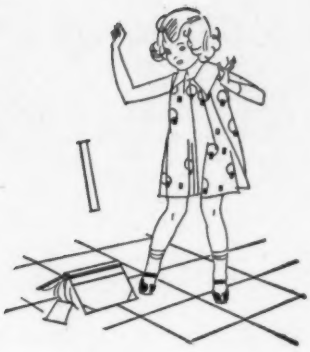
The building contains: 40 classrooms; 16 mechanical drawing rooms; 5 architectural drawing rooms; 5 art rooms; 2 music rooms; 1 orchestra room; 1 band room; 1 chorus room; 8 general science rooms; 4 physics laboratories; 4 chemistry laboratories; 5 biology laboratories; 1 civics room; 2 study rooms; 1 library; 15 wood shops; 1 sheet metal shop; 2 forge shops; 1 welding shop; 4 auto shops; 2 aviation shops; 10 electric shops; 3 print shops; 2 foundries; 1 heat treating room; 7 machine shops; 1 metal pattern making shop, and 1 monotype room.

There are also rooms for commercial education and quarters for the Reserve Officers' Training Camp.

"Lifting the Ceiling" of the Low Room

For those who are confronted with the problem of making small, low ceilinged rooms more agreeable to the eye and therefore more comfortable to live in, Dora L. Squire, of the art department of the Richmond Public Schools, Richmond, Va., has discussed the principles of interior decoration in the *Virginia Journal of Education*.

For the low ceilinged room, Miss Squire says that perpendicular lines through the medium of striped paper or panels should be introduced first into the wall decorations. If the room is long and narrow in addition to having a low ceiling, the perpendicular lines should be used on the wall. Although the narrow wall may suffer by this process, it can be benefited by standing broad furniture against it."



Why are teachers tired?

THE reason may be overwork—or an inadequate disciplinary system—or incompatibility with superiors. But often, we would do well to look elsewhere for the source of the trouble—realizing that such physical factors as inadequate lighting, heating and ventilation, excessive noise and depressing, comfortless surroundings may seriously impair efficiency.

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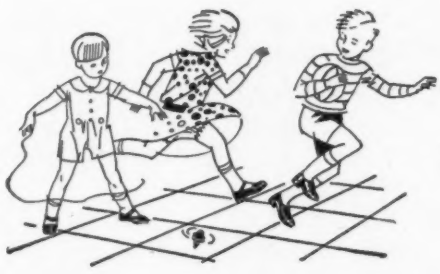

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SEALEX LINOLEUM

Your Everyday Problems:*

Shall Supervised Study Follow or Precede the Recitation?

By JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

SUPERVISED study is generally accepted as a desirable characteristic of the work of the modern school. The benefits of supervised study, however, along with many attending factors, have been established in terms of sheer guesswork rather than in terms of scientific evidence. One of these factors, which would seem to be of great importance in connection with supervised study, is the sequence of the study and recitation. In other words, should the study precede or follow the recitation?

In an attempt to throw light on the question, a study was made in the James Whitcomb Riley Junior High School, South Bend, Ind., for the school year 1928-29.[1] The study involved the sending of a questionnaire to the fifty-two teachers in the school and to seventy-eight pupils in the 7B history classes having the highest I.Q.'s, and a controlled experiment based on twenty-seven matched pairs of pupils. The pupils represented various nationalities, and homes ranging in economic status from the most humble to the most luxurious.

Arguments Pro and Con

A decided majority of the fifty-two teachers in the school expressed a preference for the recitation-study sequence. Some of the reasons for such preference were:

1. If the child studies for a recitation the next day, he will make a better preparation.
2. The pupil has a better opportunity to do home work to finish assignments not covered in the supervised study period.
3. The pupil should start his preparation with the recitation and the assignment just made fresh in his mind.
4. Most authorities seem to favor having the recitation followed by a study period.

The teachers who favored the study-recitation sequence, expressed the following reasons for their choice:

1. If the study period comes first, it eliminates the possibility of letting the recitation encroach on the time that should be devoted to study.
2. Those pupils who would do outside preparation will do it regardless of the method followed and will check up during the study period on the parts of the assignment not thoroughly understood and will bring up these points in recitation.
3. When a pupil knows that he will be called upon in a short time for recitation, he will study harder and will not postpone study.
4. There will be fewer disciplinary problems in the study-recitation plan and less time wasted because every pupil has something definite to do.

The Pupils' Preferences

5. Since a pupil does not remember facts in detail, following study with the recitation of the material studied helps to clinch the facts, while if he studies to-day what he will recite tomorrow and then goes to other classes he is likely to forget before the facts become fixed in mind.

Sixty-six, or nearly 85 per cent, of the seventy-eight pupils who were asked to state a preference as to sequence of recitation and study favored the study-recitation plan. Some of the reasons they gave were:

1. When we study first, the recitation helps us to remember the important facts.
2. We study at home in the evening and then check up during the study period.
3. We remember more when the study period comes first.
4. When we study a lesson and then go to another class, we forget what we have studied.

Only twelve pupils expressed a preference for the recitation-study plan. The reasons they expressed were:

1. We can study at home what we do not have time to get in class.
2. If we study for a recitation to-morrow, we remember more.

Twenty-seven equated pairs of pupils in the 7B history classes were formed on the basis of the Otis Classification Index. A history test constituted as follows was used both as a pretest and as a final test: fifteen multiple choice questions,

*Discussions in this department deal with problems that frequently confront principals and superintendents. Inquiries on problems of this nature should be addressed to Doctor Fowlkes.

[1] Acknowledgment is made to Claude M. Wolfram who conducted the study discussed in this article.

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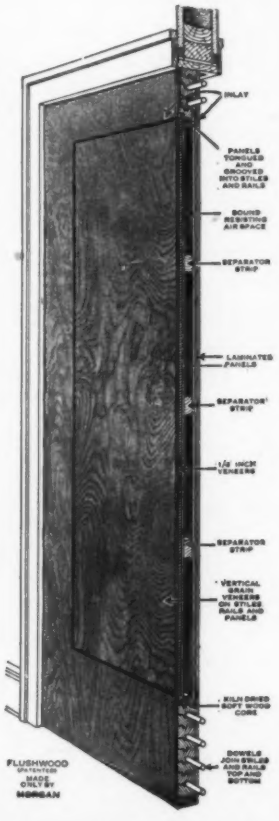
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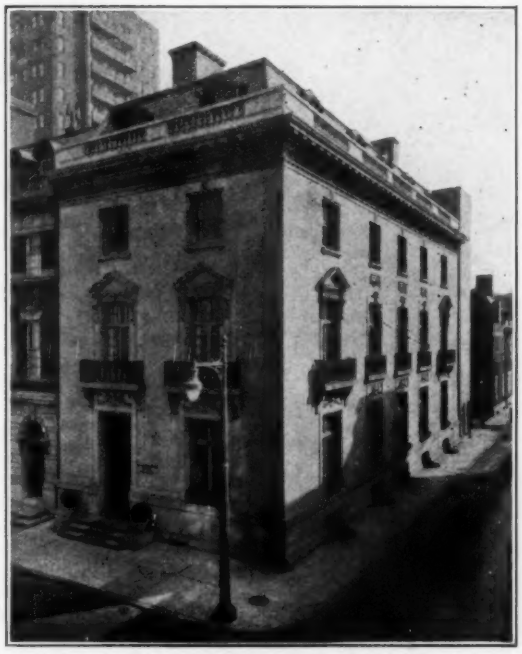

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six cause and result questions, eight matching exercises and five completion exercises, making a total of thirty-four in all. The questions were selected from other tests by junior high school teachers of history and were based on the work of the first semester of United States History. It was the aim of those who made the selection to find questions of equal importance and difficulty. Each question was given the same value in scoring. For the purpose of a better check at the end of the semester, the pupils were all given the Denny-Nelson American History Test, Form B.

The Tests and What They Revealed

Some of the class groups from which the twenty-seven pairings were made followed the recitation-study sequence, and some groups followed the study-recitation sequence. All of the class groups were taught by the same teacher who had had fourteen years of teaching experience, had almost completed the requirements for an M. A. degree, had taken nearly a semester of history work in extension and was serving as a critic teacher in history, licensed by the state of Indiana.

A careful check was kept of all irregularities in attendance, and in no case were pupils considered who had been absent more than ten days during the semester. In all cases, care was taken that experimental conditions were maintained.

All of the groups covered the same material during the experimental period, and the same assignment was made to all the groups on the same day. An attempt was made to give the assignment in the same way and to conduct the recitation in the same way in all of the experimental groups. No exceptions were permitted save that the brighter pupils and those who were able to work faster were given additional work in reference books. This additional work was given during the study period so that there would be no difference in the conduct of the recitation.

The following list of items was kept in mind by the teacher in order that experimental conditions might be maintained:

1. During the supervised study period the pupils should be taught how to study.
2. Not all points assigned need to be gone over in the recitation, but the recitation should be kept to a minimum as the needs of the class suggest.
3. Supervised study means directing the study of the pupils either individually or in groups.
4. A lack of interest on the part of pupils capable of doing better work should be discovered and corrected.
5. The pupil should be helped to do the work for himself, rather than to depend upon the teacher's doing it for him. He should be given the amount of encouragement, suggestion or help that is necessary to help him to proceed intelligently.
6. The pupil should not be allowed to take too much time for the recitation or study period.
7. Experimental conditions should be preserved and a record kept of all facts of the study.

No definite method of supervised study was followed. On some days silent help was given to individuals. Sometimes socialized study was conducted and sometimes group discussion took place. An open period of thirty minutes after classes were dismissed was arranged during which the pupils could discuss the work with the teacher. At this time, anyone needing help could consult the teacher and get extra material to read on the assignment. By comparing lists of groups and individuals taking advantage of this opportunity of conference and consultation, it was found that about an equal number of pupils from each sequence group had spent about the same amount of time after the classes were dismissed.

The classification index in the recitation-study group ranged from 96 to 128, while the range in the study-recitation group was from 95 to 130. The median classification index for both groups was 112.

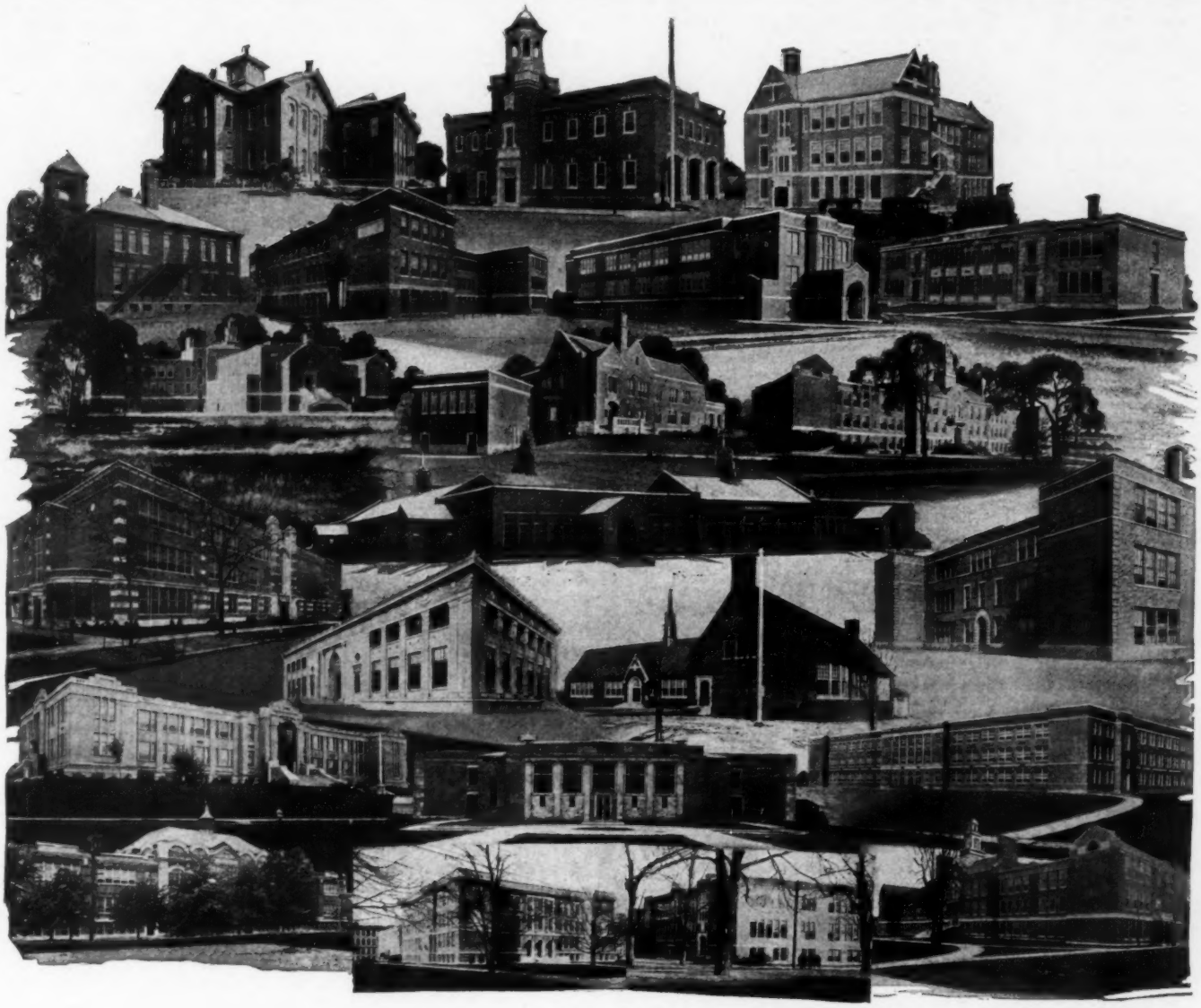
When the history test that has been previously described was used both as a pretest and one final test at the end of the semester, the results were as given in the following paragraphs. In interpreting the results of this test, attention should be called to the fact that the recitation-study group made a higher average score on the pretest than the study-recitation group. This would indicate that the recitation-study group had more historical knowledge at the beginning of the experiment than the study-recitation group.

The Results Analyzed

Pretest results: The average of the R-S group was 12.8, and of the S-R group, 8.74. The standard deviation of the R-S group was 4.62, and of the S-R group, 3.53. The critical ratio was 5.38, which indicates that there was a significant difference between the two groups.

Test results: The average of the R-S group was 22.5+, and of the S-R group, 22.4—. The standard deviation of the R-S group was 4.5, and of the S-R group, 5.04. The critical ratio was .17+, which indicated that there was no significant difference at the end of the experimental period.

Gains: The average of the R-S group was 10.24, and of the S-R group, 13.68. The standard deviation of the R-S group was 4.36, and of the S-R group, 4.3—. The critical ratio of the gains



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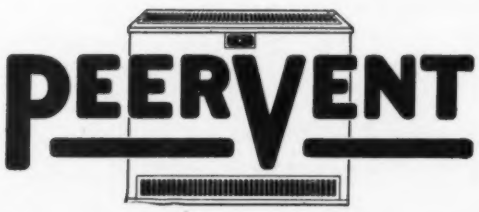

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was 4.3, which indicates a significant difference of gains.

Since there was a significant difference in the amounts of historical knowledge at the beginning of the semester, as indicated by the pretest, and there was not a significant difference at the end of the semester, as determined by the test, the S-R group made a greater average gain than the R-S group. This would indicate that the S-R sequence was more effective than the R-S sequence.

The average score per pupil for both groups on the pretest was 10.6. Sixteen of the individuals in the R-S group exceeded the average, while only seven of those in the S-R group exceeded it. The average score on the test was 21.6 points. Eighteen of the R-S group exceeded this average, and thirteen of the S-R group exceeded it. The average gain, however, was 11.4 points.

When the Denny-Nelson American History Test, Form B, was used as a final test, the results were as given in the following paragraphs. It will be remembered that the R-S group had a higher average score on the pretest, the critical ratio, 5.38, indicating a significant difference between the two groups at the beginning.

Test results: The R-S group has an average score of 52.3, and the S-R group, 50.65. The R-S group has a standard deviation of 10.65, and the S-R group, 7.465. The critical ratio of .997 does not indicate a significant difference between the groups at the end of the semester.

Gains: The R-S group has an average gain of 39.75 points, and the S-R group, 42 points. The standard deviation of the R-S group is 7.63, and of the S-R group, 5.55. The critical ratio of the gains is 1.838, which is not significant, but this can be accounted for by the greater spread in test results and in gains in the R-S group.

Comparing the Two Groups

It would seem, at first glance, that since the R-S group has the higher average score, the group as a whole had achieved more. This is not the case, however, as the gains show that the S-R group made the greater average gain.

On the Denny-Nelson Test, 56 is given as the upper quartile score, 46 as the median, and cases below 36 fall in the lower quartile. The following comparisons show the standing of the two groups with reference to the standards: 12 of the R-S group and 7 of the S-R group are in the upper quartile; 7 of the R-S group and 11 of the S-R group are in the third quartile; 7 of the R-S group and 9 of the S-R group are in the second quartile; 1 of the R-S group is in the lower quartile, while none of the S-R group is that low; 19 of the R-S group and 18 of the S-R group have scores equal to or greater than the standard median. In the S-R group, the lowest score is 41, while in the R-S group five individuals fall below this score, which is the score above which 57 per cent of the cases should fall according to the standard results. There is a spread of 36 points in the R-S group and only 26 points in the S-R group.

Conclusions and Recommendations

1. The pupils following the S-R sequence made a greater gain than those following the R-S sequence.

2. A marked difference existed between the two groups at the beginning of the experimental period, but little difference was evident at the end of the period. This shows that the S-R group made a greater gain than the R-S group.

3. Too much dependence must not be placed on teachers' judgments as to the relative effectiveness of the two sequences. Most teachers believe in supervised study, and, since it has generally followed the recitation, they have come to accept this as the right method.

4. This study indicates that the S-R sequence is superior to the R-S sequence in United States History in the junior high school.

5. It should not be concluded that since this study indicates that the S-R sequence is superior to the R-S sequence in United States History, it would be equally superior in all other subjects. Studies should be made in other subjects.

A wider sampling should be taken if possible, and if groups could be equated on the basis of knowledge of the subject at the beginning of the experimental period, in addition to chronological age and classification index, the results would be more conclusive.

7. A study should be made to determine whether maturity or superior intelligence made either sequence preferable.

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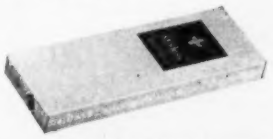

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Practical School Administration: The School Paper as a Public Relations' Agency

By PHILIP LOVEJOY, Assistant Superintendent of Schools, Hamtramck, Mich.

WHAT teacher cannot recall the demand made by her class for a class paper or a magazine? If it were an English class each pupil was anxious to contribute an article so that something he wrote might be published. Each pupil wanted a copy of the paper so that he might take it home to show to his parents and relatives, and what a proud child he was when he had such a chance.

The greatest difficulty that the enthusiastic teacher had was getting the booklet typed or mimeographed after it was written. Sometimes the pupils in the typing room would make one original and three carbons, none of which was satisfactory. Once in a while there would be time enough to have the publication mimeographed so that each child could have a copy. This, however, was before the days of the school printing plant.

Developing a Cooperative Spirit

The printing instructor now is an integral part of the school organization. He works in cooperation with other departments of the school. He knows that his pupils take more pride in their achievements if the copy they set up is to be used for a worthy purpose. The mere setting of a headline to see how it looks and then distributing it again do not augment his pupils' zest for the course. The boys want to "see the thing in print." As a result, therefore, a healthy spirit of cooperation has developed among the various departments of the school. Almost any enterprise is now a correlated project, with each department contributing its own valuable part.

Out of all this has come a number of specific projects, not the least of which has been the regular school paper. Having as its basic aim the desire of the pupils for personal achievement as well as their desire to "see the thing in print," the school paper has met with instant approval. High schools formerly were the only divisions of the system to have school papers, but now the smallest elementary school has its own little paper. Naturally in the great metropolitan centers this paper is more elaborate than its sister publications of the small town. But the value of the school paper must not be judged by its size or thickness. It must be judged by its accomplishments.

The wise administrator has encouraged this demand on the part of his pupils for a paper. Naturally he assumes that the parents will read the paper since they are interested in what their children contribute. Here, then, is a magnificent opportunity for a contact between the purposes and accomplishments of the school and of the home. The question before the administrator is how best to utilize this medium. If he is wise the outstanding articles in the paper will not be written by the teachers or by himself. They will be the product of the children. And, again, since the school is a place to prepare individuals for successful living in a democracy and since this living begins in the school, the paper will be an interpretation of school policies and achievements on the level of the children as derived from classroom projects and discussions.

Many schools are just beginning to see that some of the main problems of education can and should be discussed in the classes in social science. A true report of these discussions in the school paper will contribute to the cross section of school activity as well as of purpose. The question of public finance is made a part of the social science class. Too often there has been no injection of practical, first-hand figures on the local situation as it concerns both schools and municipal government.

The Pupil's Interpreter

The school paper then becomes the pupil's interpreter of what he sees, hears and does both in and out of the classroom.

The emotional basis of the school paper is well understood. Each parent may best be approached through the work of the child. Therefore, the school paper becomes one of the greatest factors in the public school relations' program. Several items are worthy of consideration.

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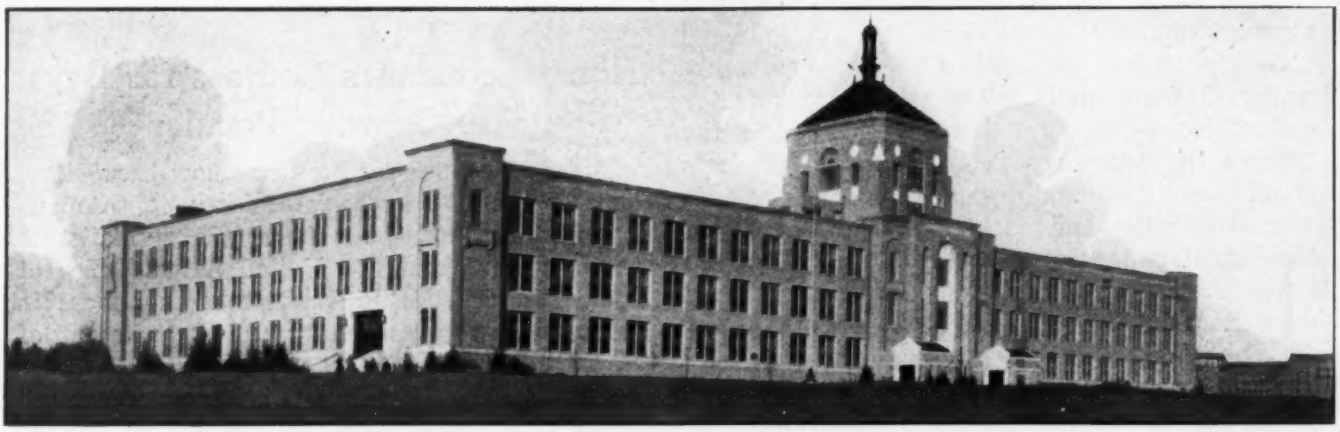

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larity which is eagerly anticipated. The school paper is factual. It is a true report by the pupil of what has happened in the school. There is no certain point of view that has to be expressed. The school paper is simply written since it is the product of the children themselves and, therefore, may be easily understood by all.

The school paper is inexpensive. It is not supposed to be a high-class craft production. It is a simple presentation of the child's point of view of school affairs, in a popular newspaper style. It will reach the busy adult. Parental love and parental pride are strong factors in every home. The child gains the center of attention especially when he achieves distinction in his school work. The school paper is one natural point of contact. It gives direct training on organization and management that is of great value.

Several points relative to school papers are worth thinking about. The wise administrator will of course see that there is included in the courses of study a sufficient number of facts about the purpose and organization of the schools to gain attention and discussion. He will see that the school paper is properly organized and allowed the facilities of the school printing plant as well as of the other correlated departments. He will see that a sympathetic faculty member has supervision of the paper but he will not demand that she be a censor or a rewrite editor.

What the Administrator Should Do

He will see that a sufficient appropriation is made so that the paper may be printed inexpensively and without the so-called charity advertising in its columns. He will encourage illustrations and to that end will have the school paper a true chronicle of events in the school. The art department and woodworking will assist in preparation. Good illustrations may be made on linoleum and mounted in the school shops. He will see that some easy plan of circulation is achieved. Each pupil in school should receive a copy of the paper. It should be at a minimum expense to him and preferably should be distributed free to each pupil. A school paper has just as much right to be free as a sheet of unprinted paper or a lead pencil. The administrator will see that a number of extra copies are printed so that any citizen who is interested may receive one.

When such a paper is prepared and when such a procedure is followed there will be far less criticism of the modern school because there will be greater understanding. Charles Lamb stated that he could not "hate anybody whom he knew." The same philosophy applies to the modern public school. If the public understands what the school is doing it will have a far greater appreciation of the problems that it faces.

The school paper is not to be used as a blind to get over some pet proposition of the administrator. It is to be used as a legitimate straightforward presentation of the work of the children both in and out of the classroom. All of the so-called extra classroom activities should be included—for in the school of to-morrow these will be some of the legitimate activities of the daily life of the school. There will be no delineation between subjects and activities. It will be a day of activities, and the school paper will be one of the greatest of these.

Home Economics Courses for Boys Are Growing Popular

Home economics for boys has now been introduced in the public schools of forty-eight American cities in forty-two states, the specialist in home economics of the United States Office of Education, Emeline S. Whitcomb, announces in a survey just published by the Department of the Interior.

Miss Whitcomb states that it is now recognized among progressive educators that boys and men, as well as girls and women, need training in the wise selection of food, clothing, shelter and in the care of the young. The reason given is that under our modern living conditions, men are sharing these responsibilities with the women.

The courses for boys include camp cookery, the selection and preparation of food, household budgets, and a general appreciation course.

Requests for this work came from the boys themselves, who apparently felt the need of it for their Boy Scout duties, camping trips, athletic contests and everyday living matters, including proper social usages for all occasions. The boys also asked for this work because they desired to know how to do some of the household tasks performed so well by their sisters trained in home economics.

Superintendents and principals of schools, teachers and parents seem to agree that boys as well as girls need home economics instruction for intelligent selection of their food, whether in the home, the school cafeteria, the restaurant, the corner grocery store or the lunch counter; the purchase and care of their clothing; information concerning rent, purchasing *versus* building a house, furnishing and financing a home and assistance in the rearing of a family.

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News of the Month

Columbus Has Warm Welcome for N. E. A. Conventioners

WITH the doors of the city hospitably thrown open to welcome them, teachers from all sections of the United States and its possessions met in Columbus, Ohio, June 28 to July 4, for the sixty-eighth annual convention of the National Education Association.

The enrollment at the convention passed the record by more than fifty. Willis A. Sutton, superintendent of schools, Atlanta, Ga., was elected president of the association for the coming year, Henry Lester Smith, dean, school of education, Indiana University, was reelected treasurer and J. W. Crabtree was reelected secretary.

E. Ruth Pyrtle, president, emphasized the keynote of the program in her opening address, "Vital Values in Education." Miss Pyrtle emphasized the value of teachers "putting first things first." The most valuable type of teacher, she said, is the one who leads pupils to think, to weigh, to measure, to reason and to judge and who leaves memory to become the by-product rather than the main objective of the day's program. She urged more study and appreciation of the outdoors. "When we are wiser," she said, "we shall run the busses of the board of education, not to bring rural children into city schools but to take city children into the country, that they may learn to know and love nature, and to feel at home in the natural world because they are well acquainted with it."

Other vital values that were stressed in the general sessions included "the international point of view," "the art of living," "the enrichment of adult life" and "creative learning."

Character and religion as vital values in education were stressed at the Sunday evening service on June 29, with the Rev. William F. McDowell, bishop of the Methodist Episcopal Church, Washington, D. C., giving the main address of the evening. Other speakers on this program were Willis A. Sutton, superintendent of schools, Atlanta, Ga., and Mrs. S. M. N. Marrs, past president, National Congress of Parents and Teachers, Austin, Texas. J. L. Clifton, state director of education for Ohio, presided at this session.

Vesper Service Held on Sunday

On Sunday afternoon, a vesper service was held with Dr. William O. Thompson, president emeritus, Ohio State University, as the speaker of the occasion. J. G. Collicott, superintendent of schools, Columbus, Ohio, presided at the service.

For those delegates who arrived on Saturday, June 28, the high school band gave a delightful concert.

In addition to Miss Pyrtle's address at the general session on Monday, June 30, addresses were given by Myers Y. Cooper, governor of Ohio, James J. Thomas, mayor of Columbus, J. L. Clifton and J. G. Collicott, all of whom warmly welcomed the educators to Columbus, and by Paul Dengler, director, Austro-American Institute of Education, Vienna, Austria. Uel W. Lamkin, president, State Teachers College, Maryville, Mo., and first vice-president of the association, was the presiding officer at this session.

The Tuesday morning business session opened with Miss Pyrtle presiding. Reports of the various committees were made. With two exceptions, the entire session was concerned with the transaction of business matters. These two exceptions were a message of greeting by A. E. Winship, editor, *Journal of Education*, Boston, and by A. E. Karnes, superintendent of schools, Ketchican, Alaska.

World Education Considered

"The International Point of View as a Vital Value in Education," was the theme of the addresses presented at the first general session on Tuesday morning. Cornelia S. Adair, Bainbridge Junior High School, Richmond, Va., and past president of the association, presided, and addresses were made by Mrs. A. H. Reeve, president, International Federation of Home and School, Philadelphia, Ida Odelle Rudy, director, primary education, Dayton, Ohio, and A. O. Thomas, president, World Federation of Education Associations, Augusta, Me. The theme was continued at a second general session in the morning with the following persons taking part: John Callahan, state superintendent of public instruction, Madison, Wis., Camilio Osias, resident commissioner from the Philippines to the United States, Washington, D. C., and Clare Soper, international secretary, New Education Fellowship, London. Mary C. C. Bradford, Denver, past president of the association, presided. Speakers at the evening session included George D. Strayer, professor of educational administration, Teachers College, Columbia University, Florence E. Allen, judge of the Supreme Court of Ohio, Cleveland, and W. J. Hale, president, Agricultural and Industrial State College, Nashville, Tenn. The presiding officer was Olive M. Jones, director, Calvary House, New York City.

The second business session of the representative assembly was held on Wednesday morning. An address, "Education for World Improvement," was given by Walter R. Siders, field representative, World Federation of Education Associations, Washington, D. C., and the rest of the session was devoted to reports presented by committee chairmen.

"The Art of Living as a Vital Value in Education," was discussed on Wednesday morning by the following speakers: Elizabeth Hall, assistant superintendent of schools, Minneapolis, Minn.; M. G. Clark, superintendent of schools, Sioux City, Iowa; Agnes Samuelson, state superintendent of public instruction, Des Moines, Iowa;

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MIMEOGRAPH

News of the Month

and on Wednesday evening by R. G. Jones, superintendent of schools, Cleveland, Lt. Col. U. S. Grant, 3rd, director of public buildings and public parks, Washington, D. C., and the Hon. Ruth Bryan Owen, member of Congress from Florida. Joseph Rosier, president, Fairmont State Normal School, Fairmont, W. Va., presided at the morning session and M. C. Lefler, superintendent of schools, Lincoln, Neb., at the evening session.

"The Enrichment of Adult Life as a Vital Value in Education" was the theme of the Wednesday afternoon program. Speakers who took part included: J. L. McBrien, professor of rural education, Central State Teachers College, Edmond, Okla.; Isabella Dolton, assistant superintendent of schools, Chicago; E. H. Lindley, president, University of Kansas. Presiding at this session was Everett M. Hosman, secretary, Nebraska State Teachers Association, Lincoln.

Jose Padin, commissioner of education, San Juan, Porto Rico, was the principal speaker at the third business session on Thursday. Speakers at the general sessions on Thursday, which were concerned with discussions of "Creative Learning as a Vital Value in Education," were: Mrs. Hugh D. Bradford, president, National Congress of Parents and Teachers, Sacramento, Calif.; W. E. Sealock, dean, Teachers College, University of Nebraska; H. E. Barnard, director, White House Conference on Child Health and Protection, U. S. Department of Interior; Frederick H. Barbee, superintendent of schools, St. Joseph, Mo.; Ira E. Robinson, Federal Radio Commission, Washington, D. C.; Richard S. Lambert, editor, *The Listener*, London; Willard E. Givens, superintendent of schools, Oakland, Calif.; Florence M. Hale, state supervisor of rural schools, Augusta, Me.; William John Cooper, U. S. Commissioner of Education, Washington, D. C. Presiding officers at the sessions were G. M. Davison, principal, Straus Junior High School, Brooklyn, N. Y., Randall J. Condon, Friendship, Me., and Caroline Woodruff, principal State Normal School, Castleton, Vt.

The convention was brought to a close on Friday morning, July 4, with the introduction of the new president, and a flag drill presented by 10,000 school children of Columbus.

Increased Funds for Geodetic Survey Will Expedite Work

The most important event that has occurred in the field of geodesy during the last year was the announcement by President Hoover of his program which calls for the completion of the topographic mapping of the United States in the next eighteen years, according to Dr. William Bowie, chief, division of geodesy, coast and geodetic survey, Department of Commerce. The topographic mapping necessarily requires geodetic surveys in the form of triangulation and leveling which furnish the geographic positions and elevations, respectively, on which topographic surveying is based.

In order that the geodetic work might be executed in greater volume than in the past, the President recently authorized an increase in the budget for the geodetic work of the coast and geodetic survey. The appropriation bill, covering the funds made available to the Department of Commerce and its bureaus for the fiscal year beginning July 1, 1930, which passed during the present session of Congress, carries $316,624 for geodetic operations. This is a substantial increase over the present appropriation of $88,600.

The appropriation bill carrying funds for the coming fiscal year authorizes the renewal of observations at the variation of latitude station at Gaithersburg, Md. That station was one of the international group which was operated by the International Geodetic Association from 1900 until 1914.

Sprinkler Costs Reduced by New Regulations

New regulations which simplify the design of automatic sprinkler systems for hospitals, schools, hotels, apartments, offices and other "light hazard" occupancies were adopted by the National Fire Protection Association at its annual Spring meeting.

These regulations establish a Class B automatic sprinkler system that permits a wider spacing of the sprinkler heads and smaller pipe sizes than the Class A system heretofore required. In consequence, the cost of providing full protection to life and property through the installation of approved sprinkler systems has been reduced from 20 per cent to 30 per cent in buildings falling within the permitted category.

A New Manual on Illiteracy Is Now Available

The revised manual for teachers of illiterates which is in process of preparation will be ready for distribution at the opening of schools in the Fall, the director of the national advisory committee on illiteracy, Dr. M. S. Robertson, announces.

In order to meet many difficulties not yet worked out in the science of pedagogy, considerable attention has been given to the various levels of education once the beginner is taught the alphabet and the digits.

The revised manual will be so arranged that there will be three levels in approaching the problem: one for beginners involving a mastery of the alphabet and numerals, another for an intermediary knowledge of reading and writing, and a third to prepare for more advanced work. Dr. Robertson points out that it will not be a textbook, but rather a guide for teachers. To it will be appended appropriate suggestions for reading and study.

Dean William Gray, of the college of education, University of Chicago, is preparing the revised manual for the techniques committee.

Hebrew Is Made an Elective in Brooklyn High School

Hebrew has been authorized as an elective study at the Thomas Jefferson High School, Brooklyn, N. Y., and in the Abraham Lincoln High School which is to be opened in September, according to the *Brooklyn Eagle*.

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FOR LESS NOISE—BETTER HEARING

News of the Month

Catholic Educators Discuss Issues of Nationwide Import

THE twenty-seventh annual meeting of the National Catholic Educational Association opened Monday, June 23, at New Orleans.

The general executive board met on Monday afternoon in the rooms of the secretary general, Dr. George Johnson, at the Hotel Roosevelt, with the Rt. Rev. Francis W. Howard, president general of the association, presiding. The board discussed several educational issues of nationwide significance. Chief of these issues was the import of recent instructions of Pius XI on Christian education. Those present were agreed that the Bishop of Rome in no sense depreciated American parochial practice, although in his encyclical he sketched an ideal for the American hierachy's direction.

The president general then appointed the nominations and resolutions committees. These committees reported at the next session of the general executive board on Thursday. Officers for the coming year were elected as follows: the Rt. Rev. Francis W. Howard, president general; the Rev. George Johnson, Catholic University of America, Washington, D. C., secretary general; the Very Rev. John Bonner, Philadelphia, treasurer general.

Industrial Training Is Advocated

At the first general meeting of the association the Most Rev. John W. Shaw, Archbishop of New Orleans, honorary chairman, presided. The Rev. Raymond McGowan, National Catholic Welfare Conference, Washington, D. C., read a paper on "Education and the Industrial Situation." He advocated instruction in the parochial schools that would open up for the pupil the problems he would meet on entering commercial life. He indicated a method of approach to these problems and closed by saying that industrial peace could be realized only through intelligent workers.

The sessions of the college section began on Tuesday afternoon. The Rev. James A. Wallace Reeves, S.T.D., Seton Hill College, Greensburg, Pa., delivered the presidential address. He averred that Catholic scientific circles remain undisturbed and poised in the face of the revolution in modern astrophysics; that the unrest noticeable in other circles is incidental to a tradition of thinking foreign to Catholic scholars; that the Catholic scientist does not fear evolution or behaviorism any more than he would attribute radioactivity or the electrotonic theory of matter to the workings of the devil.

The Rev. Thomas Leahy, Ph.D., Notre Dame, Ind., read a paper on the training of Catholic students for business careers. Father Leahy pleaded for recognition of modern business as a career contending that ethical standards in the business world are as high as they are in the professions.

At Wednesday's session the committee on graduate studies under the chairmanship of the Rev. A. M. Schwitalla, S.J., St. Louis University, St. Louis, offered a symposium of papers. The Rev. Miles J. O'Mailia, S.J., Fordham University, New York City, outlined standards of entrance and graduation maintained in the graduate schools of Fordham. He declared for a board acceptance of those seeking the master's degree. Sister Mary Eleanor, St. Mary's Notre Dame, outlined a program of graduate requirements. Father Schwitalla surveyed the general field and proposed a tightening up of requirements and a rigorous selection of all applicants. Dr. Edward A. Fitzpatrick, Marquette University, Milwaukee, urged all colleges and universities to adopt a uniform method of presenting their annual reports to the trustees and alumni. Dr. Thomas Vernon Moore, professor of psychology, Catholic University, stressed the point that Catholics should not leave to the state the training of mentally defective children.

Thursday's meeting was marked by the distinguished paper of the Rev. F. V. Corcoran, Kendrick Seminary, St. Louis. Father Corcoran discussed the need of a school of rigorous writers in this country in the interest of Catholic action. The Rev. Father John F. McCormick, president, Marquette University, opened the round table discussion on philosophy's place in the college curriculum. The department went on record as favoring cooperation with the committee of fifteen of the movement of liberal arts colleges and as continuing the work on graduate studies. The Rev. James A. Wallace Reeves was reelected president of the college department. The Rev. D. M. Galliher, O.P., Providence, was elected vice-president and the Rev. Brother Jasper, F.S.C., Manhattan College, New York City, was chosen secretary.

A feature of the opening session was the singing of the Gregorian chant by 1,000 New Orleans school children. The departments of secondary schools, seminaries and library also held separate sessions at which many interesting papers were read and many problems discussed.

Ohio State University Gives Course in Education by Radio

A course in education by radio is being offered to teachers who are attending summer school at Ohio State University. The course has been arranged by Dr. W. W. Charters of the university with the cooperation of Dr. J. L. Clinton, director of education for Ohio.

In the course it is pointed out that one-half of the success of every broadcast for schools depends upon whether the teacher in the classroom is expecting it and has prepared her pupils to take full advantage of it, whether it be a talk on the Arctic by Stefansson or a history dramalogue portraying the excitement of 1861. Also the best methods of listening to and following up the broadcasts are included in the course.

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News of the Month

Date Named for Pennsylvania Superintendents' Week

The annual conferences of Superintendents' Week in Pennsylvania will be held this year at the Pennsylvania State College, August 5 to 7. The program will stress some of the newer trends in education and the applications of scientific discoveries to educational uses, according to the *Pennsylvania School Journal.* Prominent features of the program will include directed observation in the demonstration school, discussions of supervision based on the observations and the uses of radio in the schools.

Haiti Welcomes Educational Investigative Commission

The commission to investigate educational conditions in Haiti arrived in Haiti June 15 and has begun its work, according to an announcement by the Department of State.

President Hoover announced on February 7 that, after consultation with the chairman of the commission, he had requested Dr. R. E. Moton, president of the Tuskegee Institute, Tuskegee, Ala., on behalf of the institute and such other educational affiliations as he might suggest, to undertake an exhaustive investigation into the education system of Haiti with a view to recommendations for the future.

Doctor Moton selected as members of his committee, L. M. Favrot of Baton Rouge, La., W. T. B. Williams of Tuskegee, B. F. Hubert of Savannah, Ga., and Mordecai Johnson of Washington, D. C. The members of his staff are G. L. Imes of Tuskegee, Alphonse Heninburg of Tuskegee, W. A. Shields of Tuskegee, Claude Barnett of Chicago and Carl Murphy of Baltimore.

The department has received a telegram from Stuart E. Grummon, the American charge d'affairs at Port au Prince, to the effect that the committee was greeted at the dock by a large friendly crowd. The president of Haiti, accompanied by his entire cabinet, received the committee at the palace and promised Doctor Moton every assistance for the accomplishment of his mission. The minister of education has been instructed to facilitate the committee's work in every possible way.

New Institution to Portray Progress of Radio

Cultural development of radio broadcasting and related entertainment fields, with direct benefits to the public, will result from the project for the creation of a new $250,000,000 institutional center in New York, devoted to the entertainment and cultural arts, it was declared recently by Harold A. Lafount, member of the federal radio commission.

Asserting he was "delighted" to learn of the project, Mr. Lafount said it deserved the highest commendation. "It will afford the people the benefits of the finer things of which our great radio and entertainments arts are capable," he declared.

The project, according to the statement, will cover a residential area three blocks square in the heart of New York City. The institutional center, it is stated, will be "devoted to the entertainment and cultural arts encompassed by radio progress in the fields of sound and vision."

On this site will be built a complete architectural unit that will include four theaters, devoted, respectively, to a new conception of variety entertainment, to sound motion pictures, to musical comedy presentation and to dramatic production, the statement says. A symphony hall that would complete the picture of the musical arts is also under consideration, according to the statement. Twenty-seven broadcasting studios, some of them three stories in height, will be built to accommodate the requirements of music, entertainment, education and information to be radiated from this center.

Fifteen Nationalities in Graduating Class of Chicago Adult School

Fifteen nationalities were represented in the graduating exercises of the elementary department of the Dante Adult School, Chicago, on June 26. Many of the graduates, ranging in age from sixteen to thirty years, had had previous educational training in their own countries, but resumed study to learn the English language and the history of the United States.

Jobs Are Scarce for High School Graduates

Reports indicate that high school graduates, particularly those trained in commercial subjects, had difficulty in finding suitable clerical jobs during the last four months, according to a recent statement by Earl W. Barnhart, specialist in commercial education service, Federal Board for Vocational Education.

Mr. Barnhart said that he had sent inquiries to high school placement agencies in fifteen large American cities to ascertain if the unemployment situation descended to the high school level, and the replies so far indicate that it does.

Statements from six large and representative cities, Mr. Barnhart continued, declare that the unemployment during the Winter and Spring has affected the placement of high school graduates.

In one city of a population of over 2,000,000, placement in the past three months dropped to one-half that of ordinary times.

One large Southern city reports that along with the general unemployment conditions, mergers of large financial interests, substitution of machines for human power and introduction of changes in the types of occupations have contributed to a situation that seriously affects the young graduates seeking "white collar jobs," Mr. Barnhart said.

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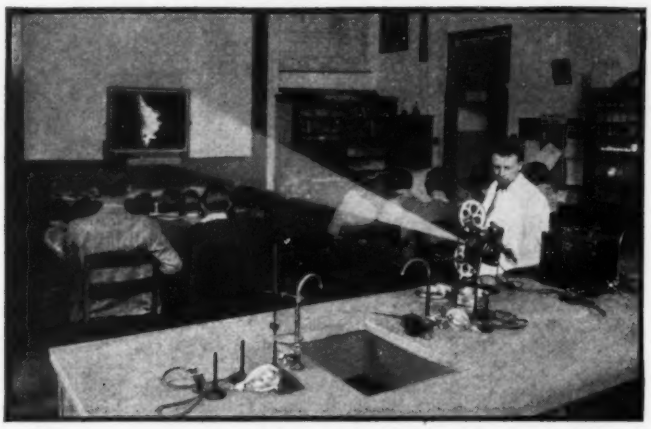

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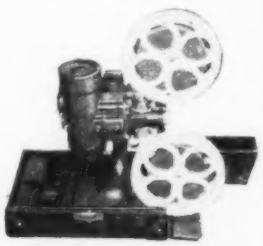

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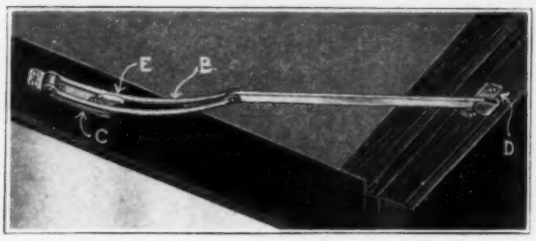

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News of the Month

Cleveland to Spend Millions for School Relief

To relieve congestion and fire hazards in the Cleveland Public Schools, a construction program that provides for the spending of millions of dollars is now being planned by the school board.

It is planned to build three new junior-senior high schools, to build additions to fourteen schools that are now overcrowded and to buy twelve new school sites. A recent survey shows that 5,176 pupils are housed in temporary or makshift classrooms. Many are cared for in portable units erected on school lots, while others receive instruction in basement rooms or gymnasiums.

Ohio Revamps Its School of the Air Schedule for Next Year

According to reports from officials in charge of educational broadcasting sponsored by the Ohio Department of Education, high schools have found it much more difficult to adjust their schedules so that they might listen to the School of the Air, than is the case in the grammar grades. "Scores of them," says C. M. Koon, assistant director, School of the Air, "have reported that they wanted to take advantage of the broadcasts but to do so required a most troublesome revamping of their schedules."

This difficulty is being avoided in the School of the Air schedule for 1930-31. All broadcasts of material for high schools will occur at the beginning of the hour. Superintendents report that they can then accommodate radio into their administrative plans by setting that period aside as "radio" or "activity" periods. Pupils who should listen to a certain broadcast may then do so and all other pupils from the high school may use the period for study or designated activity. This will unquestionably increase the high school audience.

Chicago Schools Hold Health and Educational Exposition

The health and educational exposition of the Chicago Public Schools from May 17 to May 25 was an outstanding demonstration of the work of the schools in that city. Scores of senior and junior high schools and hundreds of elementary schools participated in the event. It is estimated that 1,000 children took part each day in the living demonstrations that were held twice daily. Approximately 100,000 persons visited the exposition.

Among the exhibits was the journalism booth, where a Chicago high school associated press was manned by a staff from a different high school each day. The work was then sent to a technical high school print shop booth where the newspaper compiled by the journalism group was printed.

Woodworking pupils erected a summer house and a complete set of garden furniture. Aviation classes showed various processes needed in maintaining the efficiency of an airplane. Electrical construction classes demonstrated a variety of electrical devices they had built in their shops, such as a telechrome clock, and the new solar light. The development of art work in the elementary, junior and senior high schools was also demonstrated. A large commercial exhibit included a typewriting classroom. An interesting demonstration of salesmanship was given.

Atlantic City School Head Is Honored

Several hundred representative citizens, city executives and school teachers of Atlantic City, N. J., gathered recently at a banquet to honor Supt. Charles B. Boyer on the completion of forty years of outstanding service in the public schools of Atlantic City.

During Superintendent Boyer's work in Atlantic City, the schools have grown from a high school of two teachers and sixteen pupils to a high school of 110 teachers and 2,350 pupils; from an elementary school system of two buildings, twenty teachers and 1,000 pupils to fifteen buildings, 486 teachers and 12,000 pupils.

At the conclusion of the banquet Superintendent Boyer was presented with a testimonial book containing $800 in gold.

First Administrators' Training School Is a Success

Under the direction of Dr. Walter D. Cocking the first annual school administrators' training school and conference was held at George Peabody College for Teachers, at Nashville, Tenn., April 28-May 2. Eight hundred superintendents, principals, school board members and teachers from twenty-six states and two foreign countries attended.

Fifteen specialists from state universities, the United States Office of Education, state departments of education, administrative staffs of public schools, the National Education Association and George Peabody College for Teachers constituted the faculty of the school.

Courses dealt with school board duties, school business management, teacher rating, selection of texts, public relations, school buildings and sites, staff organizations, selection of teachers, libraries and cafeterias.

The administrators and others attending the conference, by resolution enthusiastically approved the plan to repeat the school next year when it is expected 2,500 educators will attend.

Dr. Henry Suzzalo Accepts Post With Carnegie Foundation

Dr. Henry Suzzalo, formerly president of the University of Washington, will succeed Dr. Henry S. Pritchett as president of the Carnegie Foundation for the Advancement of Teaching. Doctor Pritchett, who has been with the foundation during its twenty-five years of existence, has asked to be relieved from active duty and will retire on August 1.

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These beautiful tailor-made floors bring cheer to every classroom . . .

There are 15,000 sq. ft. of Armstrong's Linotile in the halls, domestic science kitchens, and library of this new high school at Great Neck, Long Island, N. Y.

In this quiet library the Onyx Linotile has been laid by expert workmen.

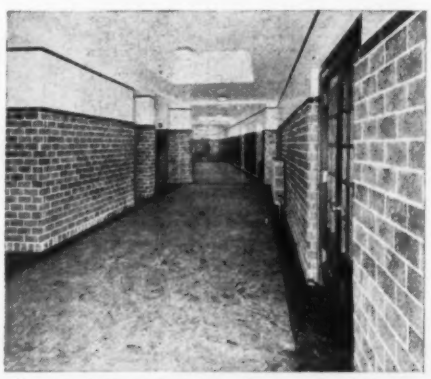
BRIGHT surroundings make cheerful pupils. That's one of the reasons why a made-to-order floor of Armstrong's Linotile is so desirable. There is no limit to the colors and designs that may be used in these custom-built floors.

Armstrong's Linotile has the advantage of being quiet, too. A pencil dropped on this sound-muffling floor won't distract the attention of your students. Nor will shuffling feet, nor footsteps out in the hall, disturb their concentration.

In halls, cafeterias, libraries—everywhere in the school building—Linotile is just as successful. These floors last a lifetime. They're clean and sanitary as well.

It's so easy to wipe up spilled things in this domestic science kitchen! It's floored with Armstrong's Linotile, of course.

Right now, during vacation, is the time to replace your worn-out floors. Linotile is easily and quickly installed, over either wood or concrete subfloors. And, once it is laid, an occasional light waxing and polishing will preserve its lustre indefinitely. Things spilled can be wiped right up without leaving a trace.



Armstrong's Onyx Linotile with Agate Marble Border hushes steps along these corridors.

Let us send you our booklet, "Custom-Built Floors of Cork." It illustrates the thirty Linotile colors, and tells you about the various tile sizes. It will also give you information about Cork Tile, another Armstrong's tailor-made floor. Our School Service Department is always ready to help you. Write to the Armstrong Cork Company, Custom Floors Department, Lancaster, Pennsylvania.

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News of the Month

Progressive Program Is Approved by Lynn, Mass., School Committee

After an experience of three years with a program of progressive education, Lynn, Mass., has voted to continue the program and to keep in charge those department heads who have been responsible for its success.

For a time, however, there was some doubt as to the opinions of the school committee regarding the program. In fact, election of department heads was postponed for a time, which seemed to indicate that perhaps the program would be rejected.

The program was initiated during 1926-27 when Dr. George D. Strayer and Dr. N. L. Engelhardt, Columbia University, made a survey of the Lynn public schools. This survey was authorized by the school committee in view of the fact that the Lynn schools, while they were perhaps average in their accomplishments, were not outstanding and did not attract general attention throughout the country for the type of work they were doing.

The chief recommendations made by the survey committee and accepted immediately were as follows: the immediate enlargement of the central staff of administrative, supervisory and research workers from three to nine members; the formation of a definite building program to last over a period of fifteen years and divided into three five-year cycles; the adoption of a new financial accounting system based upon the National Education Association recommendations; the development of a permanent continuous curriculum revision program for all schools and grades, emphasizing work done on an activities basis and taking into account the provision for individual differences as well as the homogeneous grouping of pupils.

Central Staff Is Enlarged

The first one of these steps—the enlargement of the central staff—was taken immediately, and the superintendent was authorized to fill the following new positions: a director of research and statistics, a director of physical education and health, an assistant superintendent in charge of business affairs, a school psychologist, a supervisor of upper elementary grades and a director of census and attendance.

As the work of the new departments developed and reacted upon the curriculum reconstruction program, it became apparent that some major changes were taking place in the type of education offered to the children in the schools. These changes emphasized the child as the center of activity and emphasized the individual rights and individual needs of each pupil in the group. This movement was strongest in the elementary grades, but its effect was felt throughout the entire school system. Every effort was made to keep the public fully advised as to the changes being brought about and as to the results being secured. Demonstrations were held for parents in most of the schools throughout the city and by this method thousands of adults were brought into the classrooms for the first time since they had left school themselves.

A program of standardized testing and measuring was introduced through the research department under the direction of Samuel Engle Burr, and the results of this were published from time to time in the local newspapers. Other types of newspaper publicity were used and the members of the central staff were frequently called upon to speak before various organizations in the city regarding the work being done. All of this served to keep the schools in the public eye.

At the end of the three-year-period, there were many conflicting opinions concerning the desirability of continuing the program. A great many of the teachers themselves joined with the more conservative school patrons in preferring the "good old days." However, when the teachers' council, which is composed of representatives of all the teachers of the city, containing one representative from each grade or special group of teachers, met, it passed a resolution requesting the school committee to continue the new program. In the meantime, the matter was given due publicity, and action was taken by various individuals in and out of the school organization to ensure a favorable result for the new program.

As a result of the agitation both through the teachers' council and through outside agencies, the policies of the Lynn schools were given official approval.

Special School Charter to Be Retained in Rock Island, Ill.

The citizens of Rock Island, Ill., have voted to retain the special charter under which the schools of that city have been run for some years. A petition, filed with the board of education by 178 citizens who asked for a vote on the question of discontinuing the charter, was the basis for the election. Returns from the election revealed 4,497 votes in favor of retaining the special charter and 504 votes in favor of running the schools under the general law of Illinois.

The special charter differs from the general school law in Illinois in that it specifies a board of education of five members, while the general law requires sixteen. Under the special charter the board is empowered to select school sites and erect school buildings. The board also may bond the district for a period not to exceed five years, without a vote of the people. The school district automatically expands in size with the size of the city.

Dr. F. D. Boynton Is Victim of Automobile Accident

Frank D. Boynton, superintendent of schools, Ithaca, N. Y., well known in educational circles and one-time president of the Department of Superintendence of the National Education Association, was killed in an automobile accident at Bay Shore, L. I, on June 17. He was sixty-seven years old.

Doctor Boynton numbered among his alma maters, Potsdam State Normal School, Potsdam, N. Y., Middlebury College, Hamilton College and Syracuse University. He has been connected with the schools of Ithaca since 1893, becoming superintendent in 1900. He was also a director of the Ithaca Conservatory of Music.

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In the Educational Field

DR. J. E. WALLIN, director of special education in the city schools of Baltimore, and lecturer at Johns Hopkins University and Morgan College, has resigned to head the department of psychology of the new Atlantic University, which, financed by New York and Midwestern philanthropists, will open its doors at Virginia Beach, Va., September 22.

EVERETT C. PRESTON, superintendent of schools, Johnston, R. I., has resigned. MR. PRESTON plans to study for a doctor's degree at Columbia University this year.

MABEL KNAPP FARNUM, principal, Sewall School, Brookline, Mass., died recently.

E. D. CLINE, assistant superintendent of schools, South Bend, Ind., has been named superintendent of schools for Dubuque, Iowa.

ROY JULIAN has been elected superintendent of schools, Valparaiso, Ind.

DR. DON C. BLISS, president, State Teachers College, Trenton, N. J., has retired from active duty.

RAY KUHN, principal at Pierceton, Kosciusko County, Ind., has been elected superintendent of schools, Plymouth, Ind.

DR. DAVID ALLAN ROBERTSON, Washington, D. C., has been elected president of Goucher College, Baltimore. He succeeds the late Dr. William W. Guth.

DR. GEORGE D. ROBB, principal, Altoona High School, Altoona, Pa., has retired after thirty-seven years of service in that position.

WILLIAM S. GREENE, principal, Moody School, Lowell, Mass., for the last forty-seven years, has retired. On the occasion of his retirement, MR. GREENE was given a testimonial dinner and a purse of gold by the citizens of Lowell.

R. ESTON PHYFE will retire on July 30 from the schools of Hartford, Conn., after a period of service of forty years as teacher and vice-principal.

FRANK W. MAYO, for the last nine years principal of Shelton High School, New Haven, Conn., has resigned.

BLANCHE H. COLMAN, dean of girls, Central High School, Syracuse, N. Y., and connected with the Syracuse school system for more than thirty-five years, has resigned. She will be succeeded by FLORENCE R. KNAPP, for twenty-six years a teacher at Central High School.

THE REV. DR. GIDEON I. HUMPHRIES has accepted the presidency of High Point College, High Point, N. C.

JOHN MOSES, Primghar, Iowa, has been named superintendent of schools, Little Rock, Iowa.

R. W. BUCK, who has headed the schools of Smith Valley, Nev., for the last three years, has resigned as superintendent and teacher of vocational agriculture. MR. BUCK will be succeeded by GRANVILLE LEAVITT.

FRANK T. VASEY has been named superintendent of schools, Springfield, Ill. He has been superintendent of the public schools of Mason City, Iowa, since 1918.

GALEN JONES, assistant superintendent in charge of high schools, Tulsa, Okla., has been appointed regional director of the states of Texas, Arkansas and Oklahoma, for the department of secondary school principals, National Education Association.

HARRY W. BANZE, superintendent of schools, Walcott, Iowa, has been elected county superintendent.

JAMES O. LEWIS, Owensboro, Ky., has been chosen to head the schools of Fulton, Ky.

JOHN H. PARKER, superintendent of schools in the Kingston, Pembroke, Halifax and Plympton, Mass., district, died recently. Heart trouble was said to be the cause of his death.

ERNEST M. HANSON has been elected superintendent of the public schools, Hutchinson, Minn., to succeed M. R. VEVLE, who has accepted the superintendency of the State School for the Blind, Faribault.

H. R. ELLIS, superintendent of schools, Delaware County, Oklahoma, will succeed J. B. ANTHONY as superintendent of the Tahlequah City Schools, Tahlequah, Okla.

EVERETT G. LORING, for fifteen years superintendent of schools in the union district comprising Lanesboro, Cheshire, Hancock and New Ashford, Mass., will soon retire on a pension. FRED R. STUART, Manchester, N. H., will succeed MR. LORING.

VICTOR G. CLARE has resigned as supervisor of the schools of Atlantic City, N. J. WARREN S. ROSENBERGER has been chosen to fill the vacancy.

W. G. LAMBERT, supervising principal, College Hill Schools, Beaver Falls, Pa., for nine years, was recently elected superintendent of the Beaver County schools. He succeeds DAVID C. LOCKE, who has served in that office for twenty-two years.

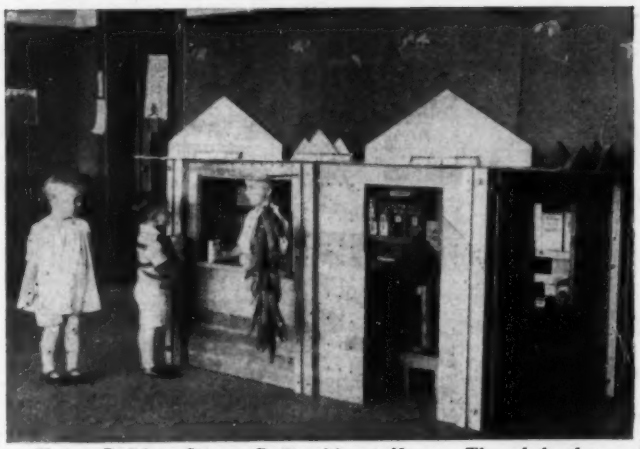
PROF. J. FREDERICK WHITFORD, head of the department of education, Milton College, has accepted the first principalship of the new consolidated school system, Bolivar, N. Y. He will begin active service in the Bolivar new central school system on August 1.

C. F. DENGLER has been selected to head the schools of Palmyra, N. J. He was for nine years supervising principal of schools, Shickshinny, Pa., and for two years assistant superintendent of the Luzerne County schools.

DAVID J. MALCOLM has been named superintendent of the Clarksburg School Union, comprising the towns of Clarksburg, Florida, Monroe and Savoy, Mass., to succeed CHARLES C. RICHARDSON, resigned.

WALTER R. WILLIAMS, superintendent of the Darby Rural School, Unionville Center, Ohio, has accepted a position at Mt. Sterling, Ohio.

E. P. STONEBREAKER, superintendent of schools, Leetonia, Ohio, has been elected to succeed A. W. RICKSECKER, resigned, as superintendent of schools, Lowellville, Ohio.



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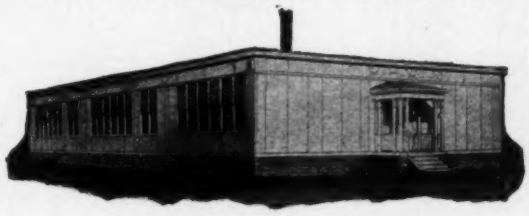

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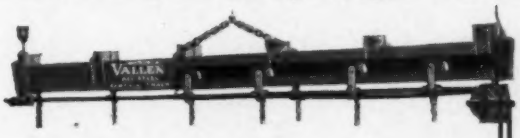

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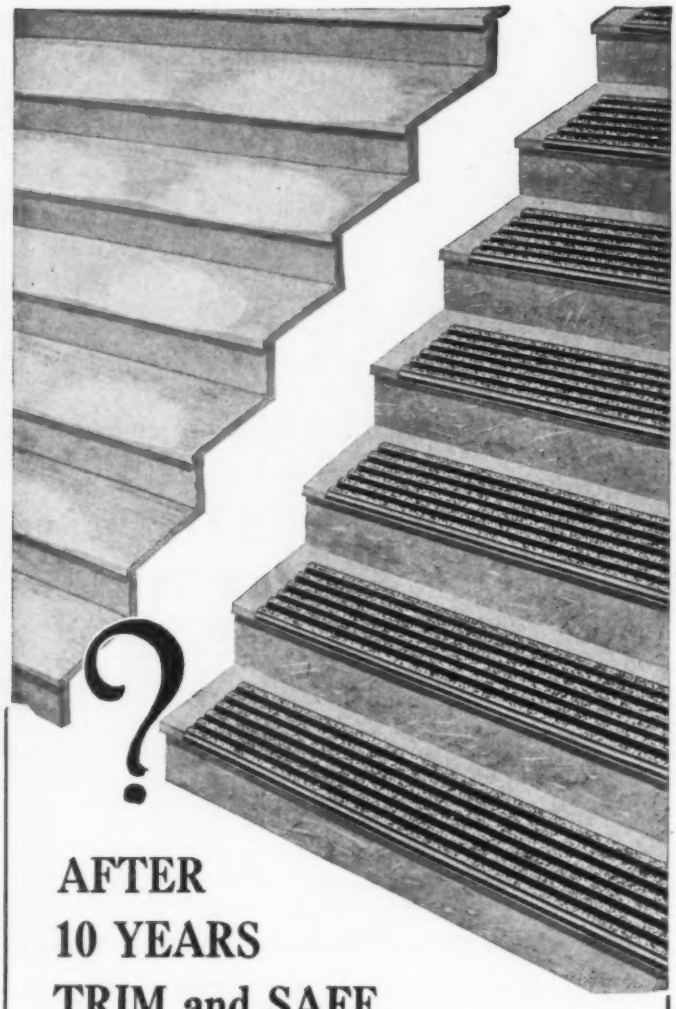

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In the August Issue

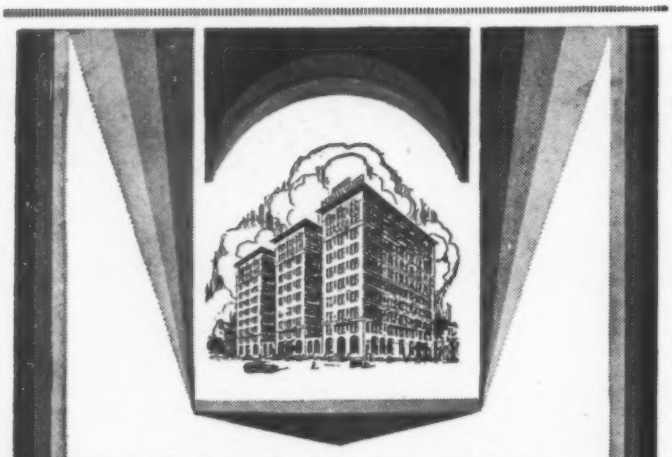
D. R. Russell of the University of Idaho, presents an interesting study on a survey of 318 schools in the Northwest. The title is, "How Shall Our Schools Be Governed?"

W. E. Maddock discusses, "Terms and Salaries of Montana School Administrators."

Joseph H. Saunders, superintendent of schools at Newport News, Virginia, writes about, "What Type of School Publicity Best Satisfies the Public?"

Also there will be—among a number of other helpful articles—such stories as these—"A Modern Substitute for the Old Swimming Hole," "Saving Children From the Juvenile Courts," "Michigan Provides for Its Handicapped Children."

Good summer reading for all school people! And a wealth of news and personal notes about current happenings.



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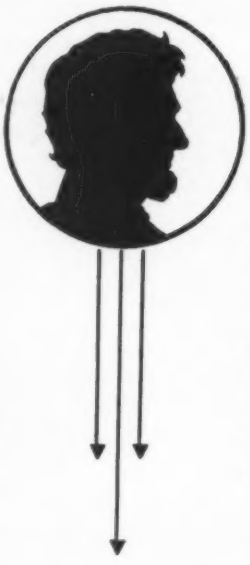

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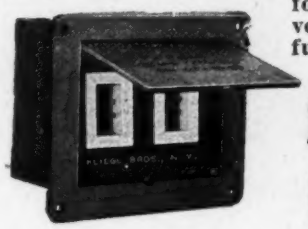

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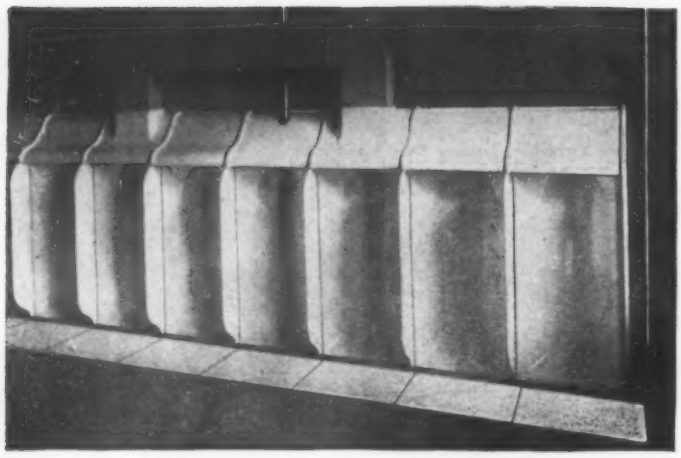

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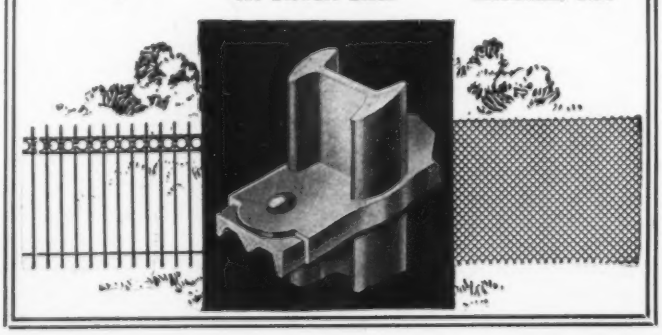

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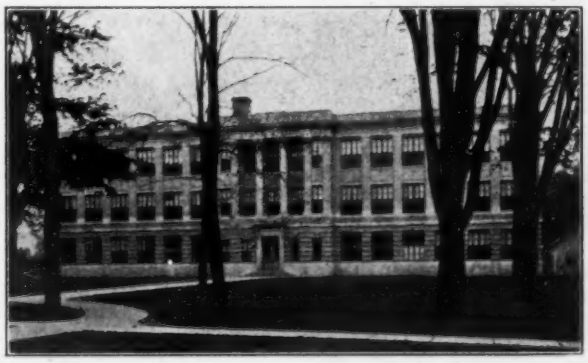

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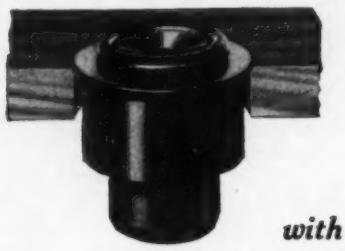

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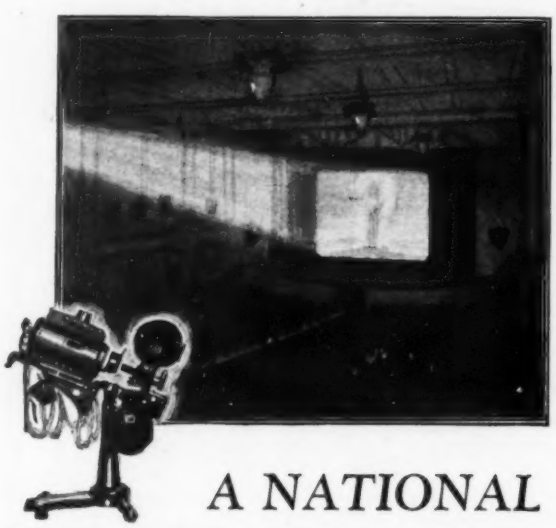

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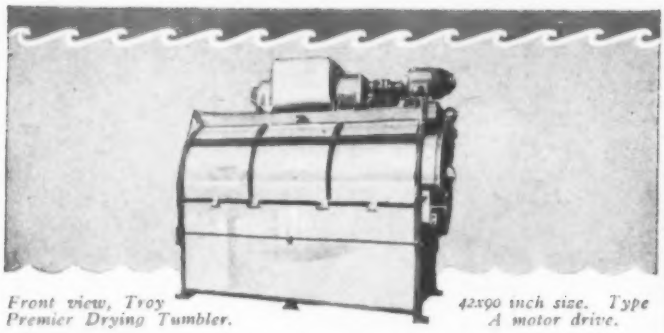

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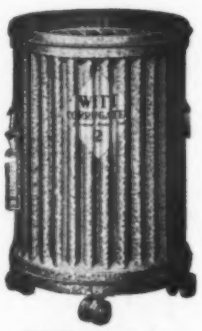

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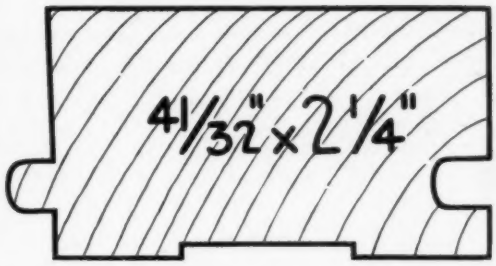

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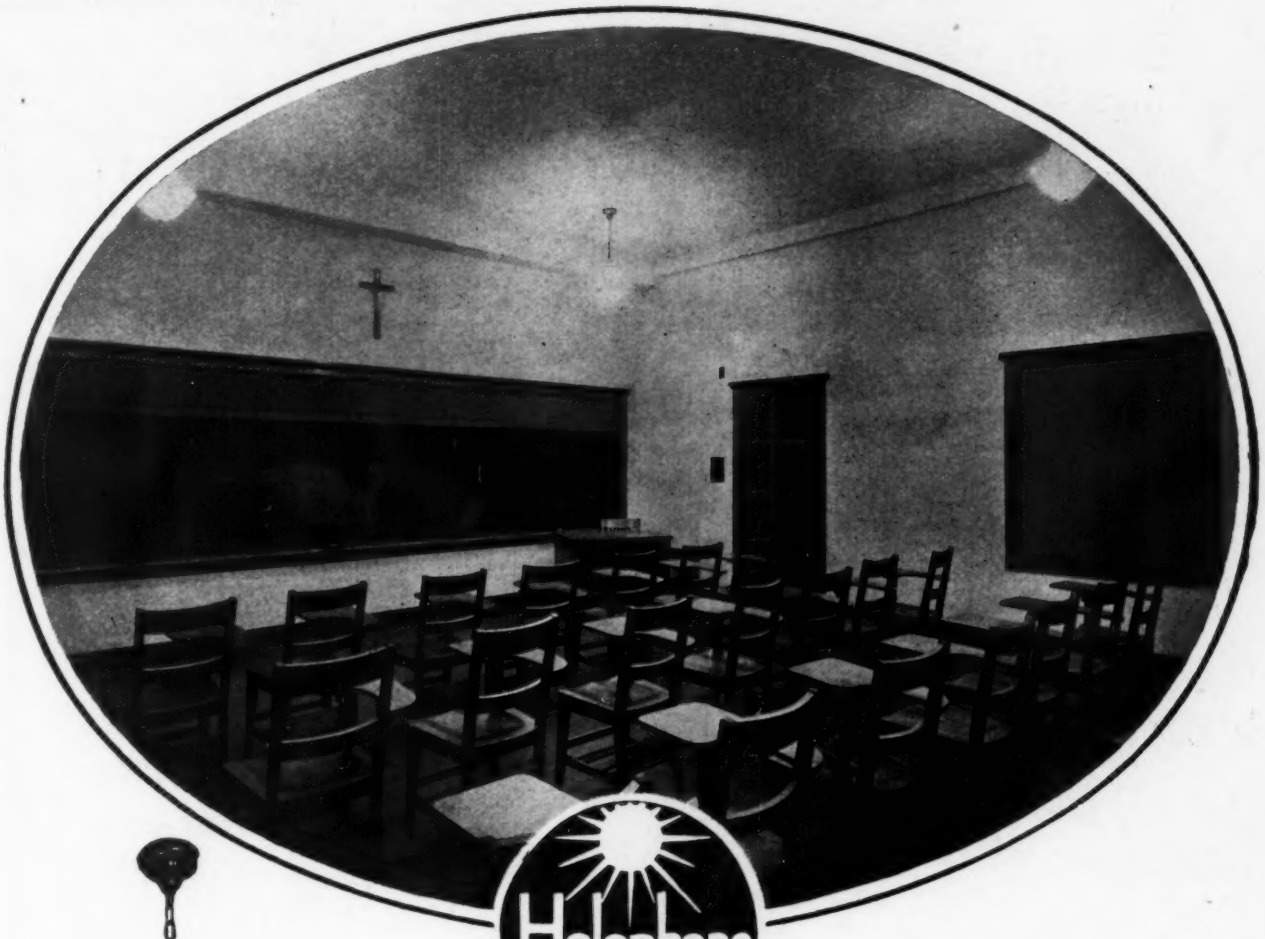

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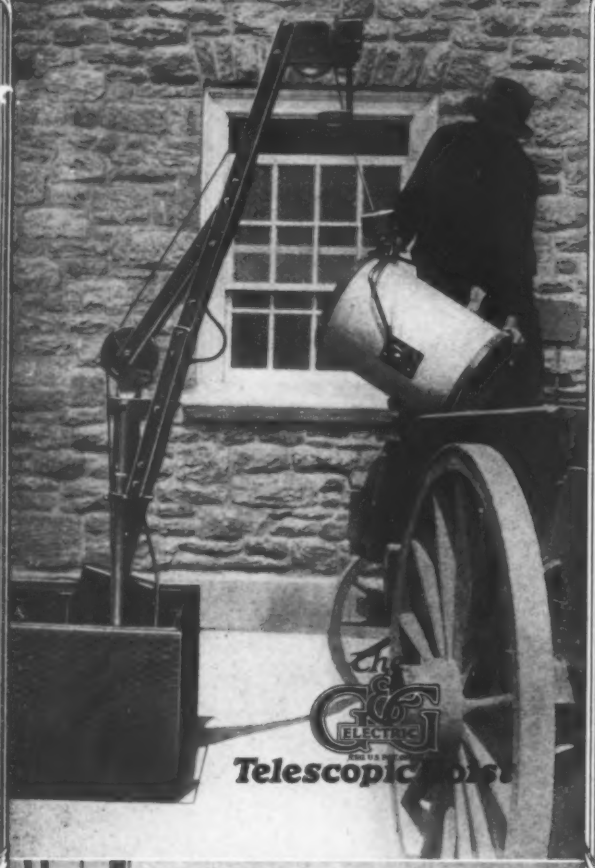

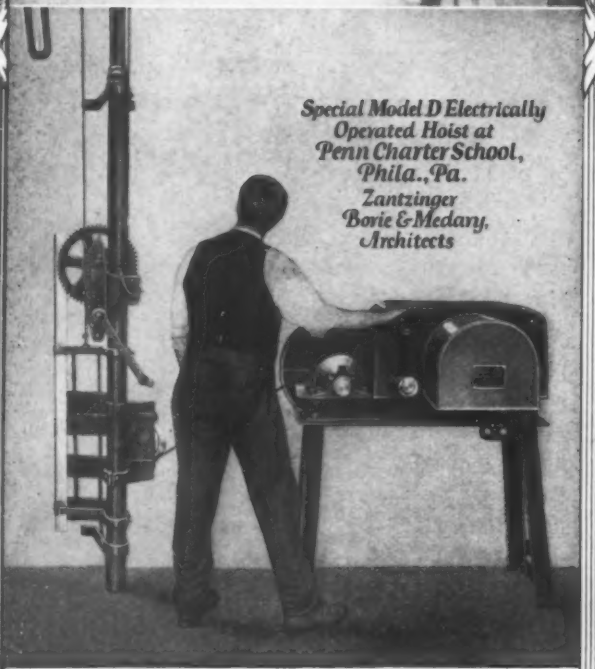

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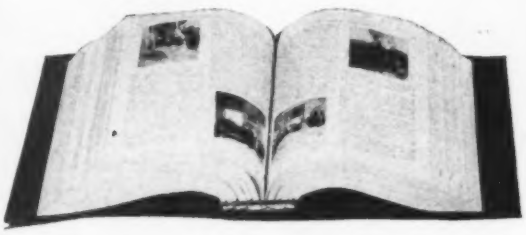

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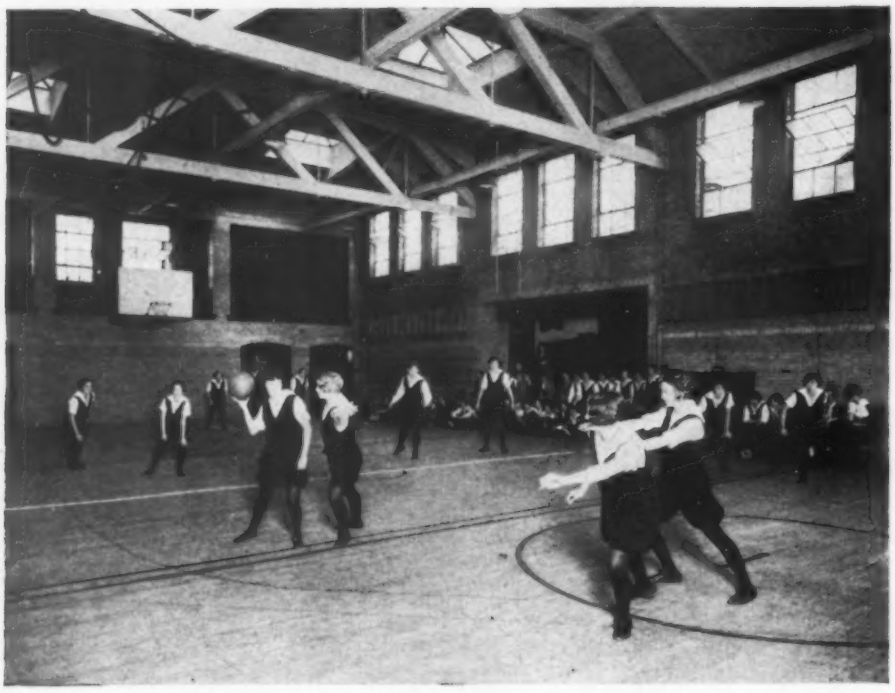

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